

# GUILFORD, VERMONT

## TOWN PLAN 2022 – 2030

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## **ACKNOWLEDGEMENTS**

**Planning Commission:** In January, 2022 a new Planning Commission was formed to continue the thoughtful and hard work of the former Planning Commission. The vast majority of the work involved in constructing this 2022 plan was done by the former Commissioners. The following lists all Commissioners, with an asterisk beside those who are on the new Commission:

Tanya Balsley  
\*Jethro Eaton  
Michelle Frehsee, Chair  
\*Julie Holland  
\*Charlie Light  
Nathanael Matthiesen  
\*Mike Szostak  
\*Jeannette Tokarz, Chair  
Thayer Tomlinson

### **Conservation Commission**

### **Windham Regional Commission**

### **Recreation Commission**

Also, thank you to the many Guilford residents who served as resources and counsel during the writing of this report. This Town Report has been a collaborative process which results in a plan we all believe will work best for our Town with our community vision at the core.

# INTRODUCTION

## Purpose of a Town Plan

The Town plan is intended to, among other things:

1. allow Guilford to participate in certain state programs and receive grant contributions and external funding for municipal projects, including Federal Emergency Management Agency (FEMA) grants;
2. support land use guidelines;
3. allow the Town to participate in Act 250 permit processes; and
4. provide a database of pertinent information about the town and inventories of town resources.

There are several main topics that weave through this 2022-2030 Town Plan: climate change, environmental stewardship, community building and sustainability, conservative use and budgeting of resources, quality of life for all generations, and the increasing complexity of our day-to-day lives, among others. The Planning Commission has heard and heeded the many voices that contributed to our process and, to the best of our ability, has integrated them into the visions, goals, policies and actions in the following pages.

It is up to the community to use this information to create the best outcomes for us as individuals and as a town.

In Vermont all town plans must cover twelve specific elements. All elements, which are established in 24 V.S.A. § 4382(a) of the Vermont Municipal and Regional Planning and Development Act (the Act), must be addressed for the plan to meet the requirements of the Act and to be considered a legal document. Otherwise, the Town would not be able to use the plan in Act 250. For the 2022-2030 plan, the State requires that we address economic development and flood resiliency issues to comply with the Economic Development criteria required in 24 V.S.A. 4382 (a)(11 and 12), in addition to addressing issues generally included in Town Plans. The twelve elements are:

1. statements of objectives, policies and programs
2. land use
3. transportation
4. utility and facilities
5. policies on preservation of resources
6. educational facilities
7. recommended implementation program
8. statement of how the plan relates to neighbors and region
9. energy plan

10. housing
11. economic development
12. flood resiliency; hazard mitigation

## **Town Plan Cycle**

The Plan is drafted by the Planning Commission, reviewed by the public in one or more Public Hearings, and then forwarded by the Planning Commission to the legislative body (Selectboard) for adoption. The Plan is adopted by the Selectboard after one or more Public Hearings. A plan expires eight years after adoption, so the planning process should be a continuing and evolutionary one, leading to a new plan every eight years. A plan may be modified before expiration by the same process followed to adopt one.

## **Public Participation**

The Planning Commission's work reflects the Guilford public's wishes to the extent that the public participates in the open process.

1. We have been guided by visiting authorities: we hosted John Bennett of Windham Regional Commission (WRC) who talked with us about the planning process. Other residents contributed their expertise to different sections of the plan. In particular, the Planning Commission worked at length with members of the Conservation Commission.
2. Once the Town Plan draft is completed, there will be an open forum to provide an opportunity for the public to comment and offer suggestions. In addition, the Town Plan will be posted on the Guilford website.
3. Finally, citizens are invited to the Planning Commission's monthly public meetings, held on the third Wednesday of every month at the Town Offices at 6:30 p.m.

## **Interpretation of the Town Plan**

In situations where interpretation of the Plan is required, it is the responsibility of the Planning Commission, in cooperation with the Guilford Selectboard, to conduct any necessary review and provide an opinion. Throughout the text of this Plan many of the policies and recommended action statements include imperative verbs (verbs that give an action or command).

## **Uses of Town Plan**

The Town Plan provides guidance to the various town boards, officers, and citizens that reflects the community's interest in and wishes for Guilford's character, development, environment, quality of life, economy, resources, and more. *Guilford strives to be a*



*welcoming town – one where people can say “my life is better in Guilford!” The eight-year plan goals and policies for 2022 – 2030 are guidelines to make this vision a reality.*

The Town Plan represents research on Guilford's present condition and is a guide for accomplishing community aspirations and intentions through public investments, land use regulations and other implementation programs. The Plan serves, but is not limited to, the following uses:

- **A long-term guide:** The Town Plan is a long-term guide by which to measure and evaluate public and private proposals that affect the future physical, social, and economic environment of the community.
- **A basis for community programs and decision-making:** The Plan is a guide to help achieve community goals. Information in the plan is used for developing the recommendations contained in a capital budget, for establishing community development programs, and for providing direction and content of other public and private local initiatives such as farmland protection, recreation development, and housing.
- **A basis for municipal regulatory actions:** Absent zoning regulations, the Plan serves as Guilford's guidelines for issues important to its residents including, but not limited to, land use, conservation, natural resources, housing, flood resiliency, hazard mitigation, etc. The Town does not issue development or building permits and there is no zoning. There is only a floodplain ordinance to regulate development in Special Flood Hazard Areas. This lack of restriction has some benefits to existing residents but could pose an issue if non-desirable development were inclined to locate in Guilford.
- **A source of information:** The Plan is a valuable source of information for local boards, commissions, citizens, businesses, and other governmental organizations, such as neighboring towns, state agencies and regional planning commissions.
- **A source for planning studies:** This plan does not address every issue in complete detail. Therefore, further studies to develop policies or strategies to meet a specific need are recommended, e.g., Conservation Commission inventories.
- **A standard for review at the state and regional levels:** Act 250 and other state regulatory processes identify the Town Plan as a standard for review of applications.

## User Guide

The Town Plan focuses on a wide variety of interrelated planning areas. Each of these areas is dealt with separately, in sections that include the following elements:

- **Vision Statements:** Each section begins with a statement of the principle that is to guide or influence thought or action, indicating what direction should be taken on a matter. The statement is overarching, designed to serve as a foundation for the section.
- **Goals, Policies, and Actions:** These are the core beliefs and guiding principles that form the Plan. They move from the broadest (Goals) to the most specific (Actions) and include policies.
- **Discussion:** The sections are generally self-contained examinations of specific issues but there are many inter-related and cross-referenced topics throughout the Plan.

# COMMUNITY PROFILE

## Town History

Little is known about the indigenous people who inhabited and traversed what was to become Guilford but we do know that the Squakheag tribe was in the area, with one of their villages nearby in what is now Vernon. In the 1660's, the tribe was ravaged by smallpox and attacked by a war party of Mohawks from central New York. The Squakheags were so shattered by this that they never recovered. They then sold their land to colonists without reserving planting grounds or any allowance for hunting or fishing which further endangered their existence.

Guilford was chartered on April 2, 1754; first settled in 1761, and then re-chartered in 1764. The first Town Meeting was held in 1772 and, like most other towns in Vermont, Guilford still holds Town Meetings to pass budgets and to settle large issues.

During the late 18<sup>th</sup> century, the territory of what is now Vermont was subject to sometimes violent disputes between New York and New Hampshire over which state had the authority to grant title to lands in Vermont (much of which was known then as the "Hampshire Grants.") Probably because of their proximity to New Hampshire and New Hampshire sheriffs, the people of Guilford tended to side with the "Yorkers" in these disputes just as, for the same reasons, people in the western part of Vermont tended to favor New Hampshire.

There was an intensely unsettled and political period between 1774, when opposition to British laws became the dominant sentiment in the Colonies, and 1791, when Vermont was admitted to the union of states. Two crucial Revolutionary War battles (Ticonderoga and the decisive conflicts at Saratoga/Bennington) were fought on Vermont's western border. But perhaps equally important to people in Guilford were the "Westminster Massacre" of 1774 (a violent disagreement among citizens in local towns over New York's authority to judge and imprison people in this part of the region) and Ethan Allen's 'invasion' of Guilford in 1782, to punish the Town for its stubborn allegiance to New York's laws and governor. As deep as the hardships and passions of the American Revolution were, the uncertainties of life caused by the New York-New Hampshire power struggle were perhaps a bigger challenge for the citizens of Guilford and Vermont during the period of the Revolution.

During the 1790s, Guilford was the largest and most important town in the state. In 1790, there were 2432 people living in Town, more than there are now in 2022. The Town must have seemed like a bustling metropolis to visitors from other parts of the state. It produced two of the period's most important figures: Benjamin Carpenter, who was Vermont's second lieutenant governor (1779 – 1780), and Royall Tyler (1757-1826), a noted author and Chief Justice on the Vermont Supreme Court from 1807 – 1812.

Born in Boston, Royall Tyler studied law with John Adams, and was an important playwright, poet, essayist, journalist and wit. He was known for his 1787 play, *The Contrast*, the first professionally-staged comedy by an American, which was performed as part of George Washington's inaugural ceremonies. While living in Guilford, he served as State's Attorney for Windham County, and in 1801 joined the Vermont Supreme Court, later serving several terms as Chief Justice. During his time in Guilford, he published *The Algerine Captive*, which described the horrors of the slave trade, and promoted religious tolerance, two strong themes in his work.

Mary Palmer Tyler, (1775-1866) eighteen years her husband's junior, gained considerable experience raising the couple's eleven children. She was the author of *The Maternal Physician*, America's first child-rearing manual, published in 1811. Her memoirs were published by her descendants *Grandmother's Tyler's Book* in 1925. The book describes her arrival, by sleigh, in Guilford Center, and their life while in the village. The Guilford Free Library local history shelf includes the Tylers' writings.

An understanding of Guilford today requires a look back to the period between 1770 and 1820, when the Town's character was formed. Most people lived outside a cash economy because there was no 'cash' to speak of (the state's first bank didn't open until 1812 and it went out of business eight years later). Barter formed the basis of the economy; consumer items imported from out-of-state were scarce and very expensive, and families needed to be as self-sufficient as possible. Roads were poor and the best time to travel or to move loads was during the winters, when the rivers were frozen and packed snow made an ideal road surface for sleighs. On the other hand, it was possible for most large families to support themselves through farming and trades. Differences in the standard of living among townspeople were less pronounced than they are today, and the level of political participation was high (only men had the right to vote; women wouldn't gain it for another 100 years). Perhaps most importantly, education was highly valued and the literacy rate in the towns of the Connecticut River valley was 90% in 1800, a civic achievement unequaled almost anywhere else in the world.

As in much of Vermont, Guilford's population declined by as much as 2/3 during the period following the California Gold Rush (1849) and the Civil War (1861-65). People left the Town and the state in large numbers for better farmland in the Midwest and the western territories, and for better economic opportunities in the cities. The railroads bypassed Guilford. The Town had no outlet on the Connecticut River, and it lost its prominence to more prosperous towns (like Brattleboro) along the river to its north. It remained a farming community with a small industrial base, famous for its argillaceous (containing clay) slate quarries, which sometimes employed hundreds of people. Other local industries included a manufacturer of wooden carriages for children, many water-powered mills to grind grain and saw lumber (one of them turned out 10,000 broom handles a year at its peak). There were also brickyards and blacksmith shops.

After the Civil War, the Springs Farm in Guilford Center became a popular destination for people seeking its famous “water cure.” The Springs Farm was both a resort and an exporter of its bottled water throughout the northeast and other parts of the country. Until 1892 there was a cider brandy distillery in Town. For most of the 19<sup>th</sup> century, however, sheep farming was by far the largest source of income, until it was gradually replaced by dairy farming.

In 1945, there were over 30 dairy farms operating in Guilford. Fifty years later there were only seven. In the 1950s, the new requirements for bulk milk handling equipment and refrigeration meant the end of very small herd farms. Besides its smallest farms, the Town also lost traditional industries and services. The Weatherhead Hollow Creamery ceased operations in the 1930s; the Town’s last Post Office (in Green River) closed in 1941; the last blacksmith shop closed in the 1950s; and the mill in Guilford Center closed in the 1970s. Today, there is a resurgence of farms, with Guilford transitioning back to smaller scale, diversified, Community Supported Agriculture (CSA)-model farms from mid-size dairy farms, and an increase in service-based business. Over twenty percent of our employed citizens work in Guilford (up from 15% in 1990); quite a few of them are self-employed.

Until the late 1950s, Guilford had 14 one-room schoolhouses located throughout the Town. Since 1957, the Town has consolidated elementary education in the Guilford Central School. The school, currently serving pre-kindergarten, kindergarten and grades 1-6, has strong support from the citizens of Guilford. Grades 7-8 attend Brattleboro Area Middle School, and grades 9-12 attend Brattleboro Union High School. Place-based education initiatives at Guilford Central School encourage strong connections between students and their community.

## **Town Character**

The Town encourages development around the Village of Algiers and along Route 5 in the eastern portion of the town, near I-91, currently the most developed areas of Guilford. Most of the rest of the Town is deemed conservation, agricultural, or residential. Guilford Center, West Guilford, and Green River are historic village hamlet areas with residential development around them. For nearly 200 years, Guilford was a town with five thriving hamlets: Algiers, Guilford Center, Packer Corners, Green River, and Hinesburg (West Guilford). Each hamlet had a school, and all except Packer Corners had a church, a post office, a store and light industry and services. Today only Algiers and Guilford Center are active public centers. Much of the change is due to the automobile, school bus, and better roads; greatly increased mobility meant that people could travel outside their hamlets to work, shop, attend school, and worship.

Two profound changes affecting the Town were the abandonment of the one-room schoolhouse districts in 1957 in favor of the Central School, and the completion of the first

stages of Interstate 91, which connected the Town much more directly with the rest of New England and New York. Building the Interstate necessitated the relocation of home, division of properties, and lost pastures and farmland. Also, it meant that most commuters and travelers bypassed the Route 5 corridor. Businesses that no longer exist or that saw their customer base significantly eroded include Guilford Cabins, a roadside gift shop, antique dealers, two country stores and gas stations, tractor and machinery sales and service shops, and farms in the business of maple sugaring. On the other hand, the possibility of commuting easily to jobs elsewhere made Guilford an attractive place to live for many out-of-staters. A wave of hippies arrived in the late 1960s and early 1970s (admittedly not attracted by the local job market); they created several communes out of old farms. Many other individuals and families came to Guilford for a simpler, better life than what they had known down-country. The 1970s and, particularly, the 1980s were a period of enormous population growth, and Guilford's population increased 89% during those two decades. Since then the population has grown more slowly.

Guilford is not the same town it was fifty years ago. Residents add a great deal to the Town by volunteering at the Central School, by serving on Town Boards and Commissions, by getting involved in conservation, and in many other ways. In turn, their values and attitudes have been shaped by the enduring small-town Vermont values of Guilford: neighborliness, hard work, love of nature and close families. Yes, Guilford is a bedroom community and three-quarters of us commute to work outside of Town each day. But the Town also remains a wonderful community where there is a rich 250-year-old heritage, a mosaic of beautiful agricultural and forested landscapes, a good school, and a population of individuals who work hard and care about each other.

## Demographics

The population of Guilford in 2020 according to the US Census, was 1820, +/- 211. (Note that some tables state 2120 as Guilford's population) The 2020 Census Data provides a wealth of demographic information:

	Guilford town, Windham County, Vermont		
Label	Estimate	Margin of Error	Percent
SEX AND AGE			
Total population	1,820	±211	1,820
Male	876	±128	48.1%
Female	944	±135	51.9%
Sex ratio (males per 100 females)	92.8	±15.9	(X)

Under 5 years	51	±32	2.8%
5 to 9 years	80	±48	4.4%
10 to 14 years	33	±27	1.8%
15 to 19 years	113	±63	6.2%
20 to 24 years	48	±32	2.6%
25 to 34 years	187	±83	10.3%
35 to 44 years	169	±76	9.3%
45 to 54 years	204	±64	11.2%
55 to 59 years	206	±68	11.3%
60 to 64 years	160	±47	8.8%
65 to 74 years	323	±75	17.7%
75 to 84 years	181	±70	9.9%
85 years and over	65	±29	3.6%
Median age (years)	55.5	±4.2	(X)

Average family size in Guilford is 2.3. The percentage of households with one or more children under age 18 years is 12.3%, with one or more adults over 60 years 57.5%. Median household income is \$70,313. In 2020, most workers (89.9%) commuted to their workplace by car, truck or van, 9% worked from home, 1.4% walked and 0 bicycled.

5.8% of Guilford residents are characterized as residing in poverty. Breaking down by age, 2.6% of those residing in poverty are under the age 18 years, 8.6% 18-34 years, 5.3% 35 to 64 years, and 6.3% over age 65 years of age.

According to the 2020 Census, Guilford has 911 housing units. Of these, 87.3% are single unit dwellings, 10.6% 2 or more units and 2.1% mobile homes or other. 79.9 % of dwellings are owner-occupied and 20.1% rented.

Housing units in Guilford are older, 234 having been built before 1940, 510 between 1940 to 1999, and 167 since 2000, 23 of which were built in 2014 or later. Thus, 82% of Guilford homes were built prior to 1999 and 26% built pre-1940.

# TOWN PLAN

## Settlements and Land Use

### *Vision, Goals, Discussion, Policies, Actions*

#### Land Use

##### VISION

Guilford residents envision a town that maintains its rural character, protects its natural resources, and provides viable living, education, and economic opportunities to sustain us well into the 21<sup>st</sup> century

##### DISCUSSION

Land use planning impacts real property, and therefore the Town is especially committed to working in collaboration with residents to develop land use regulations. Through the established hearing processes, as well as through less formal methods, the Town relies on public involvement to help weigh the interests of individual landowners with the town-wide goals of thoughtful development and conservation.

Guilford seeks to maintain its rural and community characteristics while allowing for moderate growth well into the future. While Vermont planning guidelines and the Planning Commission's sense of well-planned development call for new growth in 19<sup>th</sup> century settlement patterns around existing population centers, newcomers may prefer to live on a country road with few neighbors. However, village centers offer the benefit of more economical uses of public utilities, facilities, and services; we can preserve more of our forests and open spaces for future generations; our children have easier access to friends and community life in these small population centers; and, being close to neighbors, citizens are better able to take care of each other.

Ecologists believe that at least 40% of land in any region needs to be conserved for mutual sustainability of the earth's organisms. Compact settlement patterns will allow us to keep our forests, farmland, and natural areas free of development. The alternative – land-intensive scattered development – could eventually make one part of Town just like another. We'd lose the farms, recreation and hunting areas, snowmobile trails, and the rural landscapes that make Guilford such a special place. If everyone who moves to Guilford needs twenty acres around a new house, eventually every part of Town will look the same. We will fragment our forests and lose our wildlife habitat; farming will become extremely



difficult or impossible as fields and mowings sprout houses; and the rural and pleasant character of the Town as we know it will disappear.

This section of the Town Plan is closely tied to the Proposed Land Use Map put forth initially in the 2005-2010 Town Plan. It represents efforts to protect what is most important about Guilford while allowing for moderate growth and change. The Proposed Land Use Map attempts to identify the important ridgelines, wetlands, farms, and large areas of wildlife habitats and connecting corridors for their travel and migration, beginning the process of preserving these critical resources for future generations. The categories of Proposed Land Use represent the vision of how we can best balance current types of land use, the demand for new housing and other types of growth in the years ahead, and the need to conserve the natural resources and landscapes which make us happy to live in Guilford. We ask that you study the map carefully.

The Proposed Land Use Map in no way prohibits or prevents development. We hope it will stimulate Town-wide discussion about how we can best conserve our forests, fields, and wildlife habitat while supporting ideas for well-planned and moderate levels of development. This map and its accompanying goals, policies, and actions can be used to preserve what we have for our children and grandchildren.

### **Existing Land Use**

(See the Existing Land Use Map)

Guilford's pattern of development reflects the influences of the historic settlement pattern discussed in the Community Profile, as well as its topography and transportation system. Physical limitations such as soils and steep slopes have played a dominant role in limiting development in many parts of Town. Where soils are shallow, unstable and impermeable, or subject to wetness or erosion, land development is difficult. Where slopes are steep, as in the north/south mountain ranges in Guilford, roads and human settlements have occurred in the valleys.

The Existing Land Use Map (updated in 2021) illustrates the general pattern of development in Guilford. This pattern has not changed appreciably over the years with historic and new development occurring mainly along the road frontages in all sections of town. As of 2019, there were 1138 primary structures (primary residential, commercial, or public buildings) in Guilford, based on WRC and E911 data. The Existing Land Use Map also shows buildings and roads, along with land parcels, public and conserved lands, and agricultural lands. A more detailed description of the land use categories displayed on this map follows:

1. **High Density Residential Development** is located primarily along Route 5 closest to Algiers, and along Weatherhead Hollow Road, Guilford Center Road, and Stage Road. Lower density residential development characterizes Green River, West Guilford, Bonnyvale Road, Packer Corners, Sweet Pond Road, and the East Mountain Road areas west of Route 5.
2. **Commercial Development** is relatively sparse in Guilford, with several small businesses located along Route 5 and Guilford Center Road and in Algiers and Guilford Center. Other small businesses are scattered throughout town. These include the Guilford Country Store, automotive and tree services, as well as construction, land care, sanitary, forestry, excavation, and well drilling services.
3. **Industrial Development** in Guilford is limited mainly to forestry companies who periodically log the large tracts of forest land they own in town.
4. **Public and Cultural Buildings** include the Town Office, Guilford Central School, Guilford Free Library, Broad Brook Community Center, Guilford Historical Society, Guilford Fire Station, and our churches and cemeteries. Many of these facilities are located in Guilford Center and Algiers.
5. **Public and Conserved Lands** make up 6.2% (or 1581 acres) of the town, according to 2021 statistics from WRC. Public lands, all of which is state land, make up 1.7% (or 434 acres, 46 of which is water) of town. They include Fort Dummer State Park (144 acres), Sweet Pond State Park (109.6 acres), Roaring Brook Wildlife Management Area (107.7 acres on the eastern edge of town), and Weatherhead Hollow Pond (31 acres, 30 of which is water). Conserved lands (with conservation easements held by the Vermont Land Trust, Northeast Wilderness Trust, and Vermont River Conservancy) made up 4.5% (or 1147 acres) of town. They include Weeks Forest and Guilford Preservation, Inc., along with several privately owned lands with conservation easements. Town-owned properties are also public lands and include the Town Office, the Playscape, and several cemeteries.
6. **Agricultural Lands** include the large dairy and livestock farms in Guilford, several market gardens and CSAs, hay fields, orchards, and other lands used for raising crops and livestock.
7. **Forested Land** includes the large forest blocks in Guilford. Forests are not depicted on the Existing Land Use map, but cover much of Guilford's landscape. Forest blocks (also called habitat blocks) are areas of contiguous forest and other natural habitats that are unfragmented by roads, development, or agriculture. They are ranked for their biological and conservation value based on 11 biological and physical diversity factors. Guilford contains all or part of 28 different habitat blocks ranging from 20 acres to over

seven square miles. The highest-ranked blocks in Guilford—those with the highest biological and physical diversity—include the Deer Park block west of Green River Road, which extends into Halifax, and the Wilkens Hill block. Other high-ranking habitat blocks include those surrounding East Mountain, Roaring Brook in the southwest corner of town, Owls Head Mountain, and the area north of Sweet Pond. (See the Habitat Blocks map in the Natural Resources section of the Town Plan). Some of this land is enrolled in the Current Use program and is actively managed for timber harvests, maple sugaring, and firewood. Forest blocks and the undeveloped lands that connect them provide important corridors for wildlife to move from one region to another. Forested land also provides recreational opportunities for Guilford residents, including hunting, nature watching, hiking, and snowmobiling.

8. **Undeveloped Land** represents land not being used for development at this time. In Guilford, this includes land located in the steep north/south mountain ranges and in a large portion of the Green River Watershed on the western side of town. Much of this undeveloped area is forestland, most is in private ownership, and some has been conserved.

### **Proposed Land Use**

(See the Proposed Land Use Map)

The Proposed Land Use map and plan provide for the preservation of Guilford's natural resources, biodiversity, and rural character. The following factors were considered in developing this plan:

#### **Population and Development Trends**

Between 1970 and 2010, Guilford's population nearly doubled from roughly 1200 people to well over 2000 (Guilford's population in August 2021 is 2118). Population has stabilized in the last 20 years, although housing growth has not slowed. 92 primary structures were constructed from 2001-2008, and 72 were constructed from 2009-2019, representing 15% of Guilford's total primary structures. Because Guilford does not have zoning, development has occurred without review. Although some development has been along our existing roads, 63% of the new structures are more than 300 feet from a public road. This fact and the recent small development of a small commercial development on previously undeveloped forest land in central Guilford raise concerns about future unregulated development.

#### **Community Input**

The Planning Commission held two public forums on the Town Plan update in 2016 and 2017, taking feedback from residents and using it to revise the draft. The Planning and Conservation Commissions, with leadership from Vermont Fish & Wildlife, sponsored

Community Values Mapping sessions in the Spring of 2021. Participants placed high value on the rural character of Guilford and its large tracts of agricultural and forested land. At the same time, they valued the historical and cultural resources in Guilford Center, Algiers, and Green River Village, along with the recreational resources, farms, and CSAs scattered throughout town.

### **Biodiversity**

Natural resources mapping and community input show that Guilford is fortunate to have a landscape that supports a diverse ecosystem of plants and animals. The Conservation Commission is continuing its work on a natural resources inventory to document this biodiversity. Results will be used to help develop a land use plan that will protect the integrity of the town's biodiversity.

### **Working Landscape**

Unlike many Vermont towns, agricultural activity (dairy, produce, haying, etc.) and forestry are still very much a part of Guilford's landscape. In a time where land prices and the economy make it difficult to convert new land for farming, this land use plan recognizes the importance of the existing working landscape and seeks to maintain it for use into the future.

### **Land Capability 8**

Natural features of the landscape have served as major development constraints. Steep slopes, flood-prone areas, wet soils and shallow soils all present challenges to development that may be able to be overcome but do not reflect efficient and environmentally sound planning.

Future development in the Town of Guilford will be guided by the following proposed land use area designations. These are displayed on the Proposed Land Use (PLU) map:

### **High Density Mixed Use**

These areas (Algiers, Guilford Center, and along Route 5) hold a mix of residential and commercial activities. They are suitable for future residential and recreational development as well as light commercial uses that require good access to a main road. Commercial uses should be compatible with surrounding predominantly residential uses. The goal in these areas is to encourage well-planned and coordinated commercial and light industrial development (e.g. manufacturing, warehousing, building trades, storage, etc.) within the Town. Efforts will be made to guide and regulate development in such a way to ensure wise public investment and minimize impacts on the land and

surrounding community while avoiding strip development and supporting a range of economic development and business opportunities in the town.

### **Low Density Mixed Use**

These areas include Weatherhead Hollow Road north of the Fairgrounds, Creamery Road, the south end of Bonnyvale Road, and School Road. They currently hold a mix of residences and small businesses and have the capacity to accommodate additional low density mixed development. The goal of future development in these areas is to provide for low to moderate density housing and small businesses while maintaining the rural landscape. Agriculture, forestry, open space and recreational uses should be maintained and encouraged in these areas.

### **Rural Residential**

Rural Residential areas are those with existing moderate density rural residential development, easily accessible from the existing road system. These are areas that can support limited residential growth due to topography and soil conditions. The goal of future development in these areas is to provide for low to moderate density housing while maintaining the rural landscape. The development of rural areas shall not damage the natural environment and shall not ignore the physical limitations to development. Agriculture, forestry, open space and recreational uses should be maintained and encouraged. New development should occur close to existing roads and near the edges of open fields and forest. Any new road construction shall be carefully planned so as to respect the natural environment and to promote the clustering of houses on appropriate sites.

### **Historic Village Areas**

These areas represent the historic settlements in Guilford, including Algiers and Guilford Center, and the hamlets of Green River and Hinesburg (West Guilford). They are compact residential areas and provide cultural and municipal uses along with small-scale commercial activity. These areas may accommodate somewhat higher residential density, but their historic character must be preserved and protected and the capacity of the soil to handle wastewater must not be exceeded.

The Town of Guilford has two designated Village Centers, Algiers and Guilford Center, both of which are vibrant parts of town and important mixed use areas. Village Center designations last for eight years and accrue many benefits to the town, such as:

- Village Center Tax Credits, a category which includes Historic and Code improvement Tax credits
- Priority consideration for state grants

- Technical assistance provided by the State to support local village revitalization and planning efforts.

Guilford Center's Village Center designation enhanced the Broad Brook Community Center's access to funding via multiple State agencies in order to carry out its ambitious and forward-thinking plan to purchase and convert the deteriorating Grange building into a vibrant, multi-use community building with a projected completion date in the fall of 2022. Similarly, Algier's Village Center designation significantly aided the Friends of Algiers efforts in 2010 to purchase, renovate and re-open the Guilford Country Store, which is now a mixed-use, thriving town hub.

The designated Village Centers are shown on maps included in the Town Plan with Downtown Board-approved boundaries. Algiers has been in the program since January, 2006 and Guilford Center since May, 2014. Guilford Center's Village Center renewal date is May, 2022; Algiers' January, 2024.

### **Conservation**

Conservation areas are large, essentially undeveloped areas without access to an improved public road and to necessary facilities and services. They are predominantly forested with substantial physical limitations to development characterized by shallow soils, bedrock, wetlands, and steep slopes. These areas are important aquifer recharge areas and contain significant wildlife habitat. Conservation areas are so designated because of their special and unique value to the region's ecosystems. Lands within this area include publicly owned lands (either town or state), lands with conservation easements, steep slopes and ridgelines, and connecting habitat areas. They also provide space for low-intensity recreation. The priority in the conservation areas is to maintain large tracts of undeveloped land as well as to protect habitats, watersheds, and wildlife corridors.

### **Critical Conservation Corridors**

These areas along roads provide critical travel corridors for wildlife. Those displayed on the map provide naturally vegetated linkages to support daily and seasonal wildlife movement between larger tracts of undeveloped or conserved lands. They include the salamander crossings on Hinesburg and Green River Roads, the turtle crossing on Weatherhead Hollow Road, and the large mammal crossing near the transmission lines on Guilford Center Road. The Conservation Commission has mapped additional wildlife

corridors in its natural resources inventory. Development shall be limited in these critical conservation corridors.

### **Working Lands**

Working lands contain lands that currently have or have the potential for productive agricultural or forestry uses. They include our active farms, sugar bushes, and managed woodlands. In most locations, undeveloped land, conservation corridors, large parcels, low impact recreation and habitat protection are maintained. Some low to very low-density residential areas are located within these working lands. The purpose of this Working Lands designation is to recognize and provide for the continuation of economic values when the land is in productive use. Another purpose is to preserve the rural character of Guilford which is characterized by extensive woodlands and undeveloped fields, while accommodating low to very low density residential development that avoids the need for new road infrastructure. Many of these working landscapes provide a scenic backdrop for the community and serve to maintain contiguous tracts of open space. It is of primary importance to the Town to maintain these forested and open space areas and to preserve the working farms. Residential development shall occur only at low densities. Careful planning is needed to ensure that development does not prevent or infringe upon existing or potentially productive working lands and does not generate excessive municipal service demands such as road maintenance, septic disposal systems, water supply systems, and the provision of fire service. Any new development project shall be designed to be consistent with the visual character of the area and not to have an undue adverse impact on the aesthetics of the area.

### **Land Use Goals, Policies, and Actions (General)**

**GOAL 1** — *Achieve a balance between development activities, working landscapes, and the preservation of natural resources in Guilford.*

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#### **POLICIES**

##### **It is the Policy of the Town of Guilford to:**

1. Preserve open spaces, agricultural and forestlands, and our natural resources.
2. Maintain Village Center designation status for Algiers and Guilford Center.
3. Direct commercial growth toward the existing High and Low Density Mixed Use areas, while maintaining a mix of uses in these areas, including residential, agriculture, forestry and outdoor recreation.
4. Preserve the Rural Residential areas to provide for moderate density housing that is consistent with existing uses and is sensitive to the limitations of the land.

5. Discourage the development of new roads on agricultural lands or in large tracts of undeveloped forest.
6. Encourage clustering of detached dwelling units as a means for leaving land undeveloped and protecting natural resources.
7. Preserve the rural and historic character of Guilford through the protection of our sites and buildings of special educational, scientific, architectural, archeological, and historic significance.
8. **Ensure the viability of our agricultural and forestry economies.**
9. **Promote current and future land use practices to increase safety against floods.**
10. **Improve and protect the current high quality of our air, our ground and surface waters, and our land and wildlife resources.**
11. **Maintain a settlement pattern that allows for safe proximity of water wells and septic systems.**
12. **Limit the creation or extension of new town roads through undeveloped land.**

## **ACTIONS**

1. Provide information to interested landowners about the Current Use program and the possible benefits of enrollment. (Conservation Commission)
2. Provide resources to landowners about the benefits of conservation easements on large tracts of agricultural and forest lands. (Conservation Commission)
3. Encourage landowners, when building a new house in an existing mowing or forest, to site the house as close to the edge of the mowing or forest as practical, in order to keep the field in production and the forest uninterrupted. (Planning and Conservation Commissions)
4. Develop relationships with organizations such as the Vermont Land Trust to conserve large tracts of land, provided such tracts remain open to certain public uses and have management plans. (Conservation Commission)
5. Promote the development of industries that utilize the products of Guilford's farms and forests, by processing raw commodities into finished goods; foster the development of 'value-added' industries and services and the marketing of these goods. (Planning Commission)
6. Work with Guilford's farmers to apply for tax abatement from the Town when necessary, and for the Board of Abatement to consider the importance of working farms to the quality of life in Guilford when making decisions about whether to grant tax abatement. (Selectboard, Planning and Conservation Commissions)
7. Investigate the creation of overlay areas to facilitate more flexible land use planning in Guilford (Planning and Conservation Commissions)

**GOAL 2** — *Protect the natural environment and its economic, ecological, and aesthetic benefits.*

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## **POLICIES**



**It is the Policy of the Town of Guilford to:**

1. Encourage development projects to integrate natural features and resources so that the losses of these are minimized.
2. Discourage development in river corridors as mapped by the State.
3. Create a network of green spaces and greenways that protects and preserves the environment, wildlife habitats, natural resources, scenic landscapes, and provides recreation.
4. Prohibit the storage and disposal of radioactive materials and nuclear waste.

**ACTIONS**

1. Develop an informational packet for landowners to aid in siting of buildings, protection of rivers and perennial streams, floodplains, wetlands, vernal pools, and other natural areas. (Conservation Commission)
2. Encourage the establishment and maintenance of vegetated buffers along the shorelines of streams and ponds for erosion control, filtration, and capture of nutrient and chemical runoff.
3. Monitor new construction in river corridors as mapped by the State. (Flood Plain Administrator, Town Listers)
4. Coordinate new conservation activities with existing conservation easements in order to best protect the natural environment. (Conservation Commission)

**GOAL 3** — *Promote intensive land uses and development only in areas where adequate public services and facilities are available.*

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**POLICIES**

**It is the policy of the Town of Guilford to:**

1. Limit light industrial development to the High Density Mixed Use areas on the Proposed Land Use map.
2. Construct corridors for new energy transmission or distribution facilities only when needed, and then only within or adjacent to existing operational energy transmission facility corridors to the maximum extent possible. Minimize their visual impact on ridgelines, slopes and undeveloped areas, and avoid important natural and historic resources.

**ACTIONS**

1. Conduct feasibility studies to expand the Algiers sewer district and establish a sewer and water district for Guilford Center and northern Weatherhead Hollow Road. (Selectboard, Planning Commission)

**Working Lands**

**DISCUSSION: Agriculture**

**Primary agricultural soils** are defined as “soil map units with the best combination of physical and chemical characteristics that have a potential for growing food, feed, and forage crops, have sufficient moisture and drainage, plant nutrients or responsiveness to fertilizers, few limitations for cultivation or limitations which may be easily overcome, and an average slope that does not exceed 15 percent.

Agriculture is an essential activity that contributes significantly to the local economy, to the rural character that is so highly valued in Guilford, and to the resilience and survival of the humans in this community. Supporting sustainable agricultural activities can preserve limited prime agricultural soils, help maintain water quality and wildlife habitat, and contribute to the local economy through employment, local sales and purchases, and attracting tourism. Maintaining vibrant agricultural activities increases human resilience by providing access to food during normal times as well as times of community stress such as pandemics and disasters brought on by climate change.

Guilford's farmlands can be found all over the town. Agricultural activities include dairy, livestock, produce, hay, sugaring, and cut flowers. Guilford's farmland plays a significant role in defining the town's rural landscape. It is a landscape of fields, wooded hillsides and uncluttered hilltops and ridges. This landscape creates a sense of place that helps define Guilford. Farmland is especially vulnerable to conversion to non-farm uses. Characteristics of best farmlands (level topography and well drained soils) make them highly desirable for development.

Challenges to maintaining Guilford's agricultural tradition include the high cost of productive land and the loss of agricultural access to parcels with prime soils. Farmland is a non-renewable resource; once gone it cannot easily be recovered. Guilford's farmland is critical to maintaining a sustainable and diversified local food supply. This is especially important given that the global food chain is sensitive to pandemic food shortages and challenges to access, rising population, water shortages, climate change, and the rising costs of fossil fuels. Lack of available land means that farmers who lease land in Guilford must leave town when their leases are not renewed. Land equity puts it in the interest of property owners to keep unused farmland within a family rather than keep it productive by selling it to a new farmer. Possible solutions include financial incentives for preserving farmland through conservation easements, community land trusts, and long-term leases.

The State of Vermont recognizes the importance of agriculture to the state's economy and to the health and welfare of its people and has a *Right to Farm* law designed to protect reasonable agricultural activities from nuisance lawsuits. Guilford is committed to supporting its farmers and conserving land for agricultural use.

### **DISCUSSION: Forestry**

Historically, forests have played a vital role in Guilford. Consistent with statewide patterns of reforestation,

*Could "agroforestry" become part of Guilford's future?*

**Agroforestry** is a land use management system in which trees or shrubs are grown around or among crops or pastureland.

This diversification of the farming system initiates an agroecological succession, like that in natural ecosystems, and so starts a chain of events that enhance the functionality and sustainability of the farming system. Trees also produce a wide range of useful and marketable products from fruits/nuts, medicines, wood products, etc. This intentional combination of agriculture and forestry has multiple benefits, such as greatly enhanced yields from staple food crops, enhanced farmer livelihoods from income generation,

Guilford is now heavily wooded as compared to the open landscape of 150 years ago. Today forests continue to have a significant role in the economy and culture of Guilford as a source of timber products, firewood, and maple syrup, especially to the many residents who earn livelihoods from these lands. Forests also contribute substantially to Guilford's quality of life and well-being. These benefits include recreation, scenic beauty, wildlife habitat, and the role forests play in the natural cleaning of the air and as a vital component in the natural water cycle. Guilford's forests on the western side of town are part of the uplands of the Green River Watershed and play an important role in filtering water entering the Green River, which provides 30% of the water supply for the town of Greenfield further downstream. Most forestland in Guilford is in private ownership, although several large tracts, especially along the Green River corridor, are held by timber companies.

The Natural Resources section of the Town Plan includes a lengthy discussion of Guilford's forest and wildlife resources as they pertain to VT Act 171, which requires towns to identify significant forest blocks and wildlife corridors (or habitat connectors) and to include language to encourage their conservation. This section also includes maps and descriptions of Guilford's forest blocks and connectors and the wildlife they support.

### **Use Value Appraisal**

Since 1980, Vermont's Use Value Appraisal Program (commonly referred to as Current Use) has given farming and forestry some continuity. This program taxes farm and forestland according to use value, instead of fair market value. According to the Vermont Department of Taxes, the primary objectives of the program were to keep Vermont's agricultural and forest land in production, help slow the development of these lands, and achieve greater equity in property taxation on undeveloped land. The State of Vermont reimburses communities for municipal property tax revenue that is lost due to enrollment of land in the program. Participating landowners must pay the balance of property taxes due to the community. The program includes a Land Use Change Tax as a disincentive to develop land.

As of 2019, there were a total of 139 parcels enrolled in the UVA program in Guilford with 10,838 acres enrolled as working forest and 1,633 acres enrolled as working agricultural land. These acres represent approximately 54% of our town's land base. Large areas of contiguous enrollment are located in the central and southwest portions of town. There are 43 parcels greater than 50 acres in size that were not enrolled in the UVA program (as of 2019), but which may qualify.

While Use Value Appraisal reduces the burden for participating landowners, land can be taken out of the program with payment of a penalty. Therefore, it does not provide absolute assurance of continued undeveloped land. Other criticisms of the program include the fact

that the reduced use value figure is used for school funding purposes and that it does not support the establishment of old growth forests. However, by maintaining our forests through long term management plans, we are preserving habitat, ensuring a long term supply of high quality timber products, and supporting local jobs that contribute to the local tax base. The maintenance of agricultural lands preserves our capability to produce local foods and protect our rural landscape.

## **Working Lands: Goals, Policies, and Actions**

**GOAL 1** — *Preserve access to agricultural lands for agricultural use by maintaining current farmland in agricultural activity and opening unused farmland to new farmers.*

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### **POLICIES**

#### **It is the Policy of the Town of Guilford to:**

1. Preserve access to agricultural lands by supporting farmers.
2. Encourage opportunities in agriculture that use sustainable practices.
3. Encourage new farmers and the establishment of new farm operations.
4. Encourage proper management of agricultural lands, through development of and adherence to land management plans and sound land stewardship practices.
5. Encourage the siting of new development so as to avoid loss of agricultural lands.

### **ACTIONS**

1. Inform farmers and owners of other qualifying agricultural land about the Use Value Appraisal Program (Conservation Commission)
2. Work with farmers, landowners, private land trusts, and governmental agencies to conserve important agricultural land by purchase, conservation easements, or other means. (Conservation Commission)
3. Discourage development that interferes with the current or potential productivity of agricultural and forest soils. (Planning Commission)
4. Encourage citizens, when building a new house in an existing mowing, to site the house as close to the edge of the mowing as practical, in order to keep the field in production. (Planning and Conservation Commissions)
5. Discourage the development of new roads on agricultural lands or in large tracts of undeveloped forest. (Planning and Conservation Commissions)
6. Encourage Guilford's farmers to apply for tax abatement from the Town when necessary, and for the Board of Abatement to consider the importance of working farms to the quality of life in Guilford when making decisions about whether to grant tax abatement. (Planning and Conservation Commissions)
7. Reduce the potential for conflict between farmers and non-farming neighbors by promoting understanding of Vermont's Right to Farm Law. (Conservation Commission)

8. Conduct a Land Evaluation and Site Assessment for Guilford's current and future agricultural land using GIS mapping tools. (Conservation Commission, Neighborhood Roots)
9. Coordinate conservation efforts among landowners, land trusts, state agencies, town and regional organizations to promote ecologically sound sustainable agricultural practices. (Planning and Conservation Commissions)

**GOAL 2 -** *Support and maintain our strong agricultural community and economy in order to increase food access and community resilience through local farm and food initiatives.*

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## **POLICY**

**It is a policy of the Town** to make food access initiatives a priority.

## **ACTIONS**

1. Encourage and support initiatives that increase food access.
2. Encourage diversification of agricultural activities.
3. Encourage and support new farmers and the establishment of new farm operations.
4. Encourage the development of industries that utilize the products of Guilford's farms by processing raw commodities into finished goods; foster the development of 'value-added' industries and services and the marketing of these goods.

**GOAL 3 —** *Preserve important forestland for sustainable forestry practices, support forest-based industries, and establish old growth forests.*

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## **POLICIES**

**It is the Policy of the Town of Guilford to:**

1. Preserve important forestland for sustainable forestry practices.
2. Protect ecosystems and the habitat of threatened and endangered species.
3. Encourage the conservation and stewardship of existing contiguous habitat.
4. Ensure the conservation and stewardship of significant natural communities.
5. Protect the functional integrity of deer wintering areas, bear habitat, and other important wildlife habitats.
6. Provide information to landowners about the importance of grasslands, early successional forest, and shrub habitat to certain species.
7. Undertake efforts to remove invasive species.
8. Update existing natural resources information and studies using the best available and most reliable sources of data.
9. Follow best road management practices of VT Local Roads and VTRANS to conserve wildlife corridor functions.
10. Protect and enhance forest blocks, habitat connectors, and wildlife road crossings.

11. Support landowners working to reduce fragmentation of important forest block and habitat connectors through enrollment in the Current Use program, conservation easements, or other landowner efforts.
12. Encourage the siting, location and design of roads and utilities to minimize the fragmentation of forest blocks and habitat connectors.
13. Encourage the siting of new development so as to avoid fragmentation of forests, wildlife habitat, and significant natural areas. Development projects should minimize their ecological and visual impact on open spaces, which are attractive to visitors and residents alike.
14. Purchase or accept rights to properties that need protection and/or would be of benefit to the Town; encourage and support the purchase or lease of private property for public use; and support a mechanism, such as Guilford Preservation, Inc., whereby these transactions are possible.
15. Support forest products industries.
16. Encourage proper management of forests, through development of forest management plans and sound land stewardship practices.
17. Restrict the reclassification and upgrading of Class 4 roads and legal trails to public roads.

## **ACTIONS**

1. Complete and communicate the findings of Guilford's Natural Resources Inventory. (Conservation Commission)
2. Encourage those who already live within an area identified as critical functioning habitat to use best management practices like the ones in the ANR wildlife habitat best management practices. (Conservation Commission)
3. Identify and map the town's most important forestland, in consultation with landowners, specifying their significance. (Conservation Commission)
4. Communicate with landowners about the value of establishing old growth forests in Guilford. (Conservation Commission)
5. Encourage forest management consultation with the Windham County forester, Windham Regional Woodlands Association, Vermont Coverts, Inc. or private consulting foresters. (Conservation Commission)
6. Provide names of professionals capable of helping landowners 1) assess forest land access sites and 2) avoid subdivision and development that will cause unnecessary fragmentation of forest property. (Planning and Conservation Commission)
7. Provide information on managing biodiversity, the Use Value Appraisal Program, the Tree Farm Program and FSC-based certification. (Planning and Conservation Commissions)
8. Work with landowners, private land trusts and governmental agencies to conserve important forest land by purchase, conservation easements, or other means. (Conservation Commission)

**GOAL 4** — *Identify, preserve and protect large tracts of forest to avoid fragmentation*

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## **POLICY**

**It is the policy of Guilford to** locate new development so as to avoid fragmentation of forests, wildlife habitat, and significant natural areas.

## **ACTIONS**

1. Require new development to have frontage on or access to town roads that are currently maintained for year-round use in order to minimize fragmentation, negative ecological impacts, and additional maintenance costs to the town. (Planning Commission)
2. Continue study of the town's most important forestlands and communicate with landowners about their significance. (Conservation Commission)
3. Work with landowners, private land trusts and governmental agencies to conserve important forest land by purchase, conservation easements or other means. (Conservation Commission)
4. Consider purchasing or accepting rights to properties that need protection and/or would benefit the Town and its residents as well as encouraging acquisition of private lands with public access through another mechanism, such as a citizen interest group like Guilford Preservation, Inc.
5. Assist landowners with the following conservation resources:
  - a. Encourage forest management consultation with the Windham County forester, Windham Regional Woodlands Association, Vermont Coverts, Inc. or private consulting foresters;
  - b. Provide names of professionals capable of helping landowners 1) assess forest land access sites and 2) avoid subdivision and development that will cause unnecessary fragmentation of forest property.
  - c. Provide information on managing for biodiversity, the Use Value Appraisal Program, the Tree Farm Program, and FSC-based certification (Conservation Commission)
6. Utilize smart growth principles to encourage small cluster housing developments, surrounded by preserved and undeveloped land, as an alternative to widely distributed development. (Planning Commission)
7. Support the continuation of the Use Value Appraisal Program as a way of retaining large tracts of farmland and forestland.

**GOAL 5** — *Preserve and protect critical linkages (connectivity) of wildlife habitat and travel corridors.*

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## **POLICY**

**It is the policy of the Town** to identify, map, and maintain the integrity of wildlife corridors.

## **ACTIONS**

1. When conducting planning efforts, consider wildlife corridors and connectivity blocks together. (Planning Commission)
2. Continue identification and mapping of the critical wildlife corridors within Guilford and linking Guilford to neighboring towns. (Conservation Commission)
3. Identify potential strategies for protecting wildlife corridors, including signage, culverts, and other structures to guide animals to cross in safer areas. (Conservation Commission)
4. Continue to upgrade culverts and road infrastructures to VTrans standards, which require that crossings include full-width banks and natural, at-grade bottom substrates to facilitate aquatic and terrestrial organism passage. (Conservation Commission, Road Commissioner)
- 5.



# Residents

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

*Guilford is all of the following:*

- *a town that encourages all to have a voice;*
- *a town that facilitates active participation with community leadership;*
- *a place where our children want to stay and/or come back to live, grow and raise their families; one that allows them to create and find meaningful work so that they can live successfully;*
- *a great place to grow up, a great place to live, and a safe and conducive environment in which to age in place;*
- *a town where people talk with each other and address the issues that concern them;*
- *a town where neighbors support neighbors.*

### GOALS

1. Provide resources to enable decisions that are collaborative, include stakeholder input, go through planning processes, and are in the spirit of the Town's visions.
2. Improve community communications.
3. Nurture the "we're in this together" spirit.
4. Nurture the energy and sense of community exhibited in the 250th anniversary year.

### DISCUSSION

Our community of 2000+ individuals includes:

- children (for whom we need day care, pre- and post-school care);
- older youth (with needs for teen activities, work, and volunteer opportunities);
- young families (seeking a viable environment in which to live, raise, and educate their children);
- individual entrepreneurs and small businesses (with needs for a solid infrastructure, including access to fast internet);
- individuals and families engaged in agriculture and forestry operations (which may benefit from wide-ranging visibility and support) or who want to live in Town but must or wish to make their living elsewhere; and
- a growing number of senior citizens who already do, or eventually may want to, age in place and/or avail themselves of more assistance than is currently available through health care, insurance, or fee-for-service providers.

Each of these population groups requires and/or would benefit from any and all steps that Guilford can take to strengthen, nurture, and maintain an engaged and supportive community. The recently formed Recreation Commission provides opportunities for all

ages to engage in community gatherings, outdoor sports, and other recreation activities. Guilford Cares offers classes, meetups, and services for all Guilford residents.

As a small and dispersed rural community, it has been hard to develop the resources of larger communities for pre-school services and early childhood education opportunities. For younger children, the Guilford School now offers a pre-Kindergarten class as well as a free after school program with activities and care. However, the community is still in need of affordable early childhood care for infants to three years of age.

### **ACTIONS and POLICIES**

1. **It is the policy of the Town** that its leadership will access and leverage the range of regional expertise and resources that exists to serve local residents and businesses.
2. **It is the policy of the Town to** establish and support a task force to create, maintain, and publicize the following:
  - a. Directory of social services, including Guilford Cares
  - b. Directory of local businesses, including agricultural and forestry operations
  - c. Community calendars
  - d. Civic opportunities (commissions, boards, task forces, elected positions, etc.)
  - e. A Guilford Handbook for all residents
3. Encourage all who have internet access to subscribe to and use Guilford Front Porch Forum (<http://frontporchforum.com>) and refer to [www.guilfordvt.net](http://www.guilfordvt.net) frequently for Town news.
4. Support the revitalized Guilford Gazette; consolidate newsletter efforts and budgets across town to realize efficiencies of scale and communications.
5. Find ways to connect neighbors by attending school concerts, church-led initiatives, events at the Broad Brook Community Center, the Guilford Fair, potluck dinners, etc.
6. **It is the policy of the Town to** ensure that the Town's address database is current and accessible for postal mailings (and email messages for those who opt in).

# Housing

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

*Guilford residents can secure safe and economically viable housing and can age in place if they choose.*

### GOALS and POLICIES

1. **It is the policy of the Town to** consider diverse housing types in various locations, and to take low-income residents into consideration when drafting any land use regulation.
2. The Town shall support age-in-place options that could be implemented for senior residents. However, in any case where an assessment of the need for and/or feasibility of a senior housing project on current properties or new-to-the town properties is presented to or requested of the Town, it is the policy of the Town for the Town and any other parties to require community involvement in the following ways: notification to every resident of the town through direct mailing to all residents; posting to community online forums; announcements in Guilford Gazette; and a publicly warned presentation to Town Commissions to include the SelectBoard and Planning Commission.
3. **It is the policy of the Town to** bring to a vote by Australian ballot for resident approval, after fully informing residents, any development project that requires the Town to provide new or expanded services (e.g., road crews, emergency service, water and sewer, etc.) that may impact the tax burden.

### DISCUSSION

Land prices, a high tax rate, and ever-escalating construction costs combine to make the goal of owning and maintaining a home as much of a challenge now as in previous decades. Therefore, the Town should explore housing options for its residents, options that will allow us to sustain our community and perhaps grow at a comfortable and economically-viable level. Such deliberations will help address concerns about retaining and supporting our younger and senior residents.

Our neighborhoods are economically diverse, not segregated into low, middle, and higher income areas, making it easier to understand and help each other. This fact should facilitate informed conversations around, and setting the direction for, any change and growth of our community arising from future building projects that may involve grant money. Although the town of Guilford does not have zoning, prior to undertaking grant-funded housing projects and/or large scale development projects, we encourage developers and appropriate Town bodies to engage the entire community in the following ways: through

direct mailings to all residents, newspapers, open forums, the Gazette, and all available social media channels.

## **ACTIONS**

1. In order to preserve the rural character of Guilford, encourage development in existing hamlets and existing developed areas rather than fragmenting natural and working lands such as forested or agricultural lands.
2. The Planning Commission will stay abreast of current housing information to include:
  - a. examine and analyze the impact of affordable housing on Town taxes, services, and infrastructure.
  - b. analyze the way in which Town taxes affect the ability of people to become homeowners in our Town or to continue to be Town residents.
  - c. make recommendations for addressing issues discovered.
3. Any parties involved in housing development proposals or issues that could impact the Town's tax rate, services, and infrastructure are encouraged to inform the Town of such for its consideration.

# Infrastructure

## ***Vision, Goals, Discussion, Policies, Actions***

(This section deals with climate change, community facilities, public utilities, town administration, public service (fire, police, EMS), and emergency management)

### **VISION**

*Guilford is prepared to ensure that its residents have access to convenient and up-to-date services including but not limited to education, town government, health, public facilities, public utilities, waste disposal, etc., being mindful of our environment, accommodating demographics as they change, and taking into consideration the impact on the Town's tax burden. Also, the Town is prepared to cope effectively with emergencies.*

### **GENERAL: CLIMATE CHANGE**

#### **Goals**

1. Be proactive in analyzing and planning for the increasing impact of climate change on infrastructure (roads, consequent demands for emergency service; communication networks, etc.).
2. Begin to anticipate short and long-term ripple effects of climate change in the United States, e.g., diminished water resources elsewhere in the country, and how that may lead to population shifts.

#### **Discussion**

The climate is always in a state of flux. But the general trend is that it's getting warmer and wetter. The timeline of this change, in terms of seasonality, is not predictable - yet. Climate experts acknowledge that the biggest risk is not that the changes are coming, but that we don't know when. We are required to be proactive in terms of risk management. It is expected Vermont will feel the most significant impacts in the following areas:

- agriculture,
- tourism,
- health care (especially for the elderly),
- disrupted infrastructure and transportation systems,
- challenges to the global supply system,
- the insurance industry (insurers are concerned about the unpredictability of climate change).

As a result of climate change, we already experience a paradigm shift that makes extreme weather events more likely and threatens to ever-more-frequently disrupt the lives of Guilford residents. Tropical Storm Irene is an obvious indicator of this type of event, but the smaller, localized storms that dump incredible amounts of precipitation in a short amount of time are also of serious concern. These often unexpected and unpredicted episodes turn

small streams and brooks into raging rivers that wash away roads, flood homes, and create power outages.

Although historically severe drought has occurred infrequently in Guilford, changing climate patterns may lead to more frequent periods of drought. In contrast, other parts of the country are already experiencing massive water shortages. Eventually those with the will and means to move are likely to seek out areas of the country where water is plentiful. Guilford may be an attractive location for these “climate refugees” and an influx of people, not unlike that of the “back to the land” movement of the 1970s, should be considered and prepared for as best as possible.

### **Action**

The Planning Commission and Selectboard will work closely with local, State, and Federal experts to understand demographic, economic, AND environmental patterns and trends that will shape our future and impact the Town’s infrastructure, including the impact of climate change.

## **WASTE MANAGEMENT**

### **Discussion**

The Town of Guilford does not have municipal tax funded curbside trash, recycling or compost pickup. Residents can either hire a private hauler for waste, recycling, and compost, or work with the resources provided by the Windham Solid Waste Management District (WSWMD), of which Guilford is a member.

The WSWMD operates a Transfer Station at 327 Old Ferry Rd., in Brattleboro. Guilford households must buy an access sticker to dispose of waste at the WSWMD Transfer Station and get access to free recycling and composting. More information about using the Transfer Station, including how to get a sticker, a fee list for materials, how to dispose of hazardous waste, and hazardous waste collection events, are on the WSWMD website: <https://windhamsolidwaste.org>. The website also includes information on backyard composting, which is strongly encouraged for all Guilford residents. Volunteers operate a Swap Shop at the Transfer Station where goods can be dropped off and picked up for free, to help divert materials from the landfill. Check the WSWMD website for updated information on accepted Swap Shop materials and open hours.

The Windham Solid Waste Management District adopts a new Solid Waste Implementation Plan (SWIP) every five years to comply with Vermont’s [Materials Management Plan \(MMP\)](#):

- To prevent waste from being generated,
- To promote sustainable materials management, with a preference for highest and best uses,
- To minimize reliance on waste disposal (landfilling and incineration), and

- To conserve resources, minimize energy consumption, and reduce greenhouse gas (GHG) emissions and other adverse environmental impacts.

To view the most recent WSWMD SWIP, adopted in December 2020, go to the SWIP section of the WSWMD website, found here:

<https://windhamsolidwaste.org/swip-solid-waste-implementation-plan-2020-2025/>

Landfill materials such as food scraps, leaf and yard debris, and recyclable items take up limited landfill space and contribute to climate change by producing greenhouse gas emissions. The goal of Vermont's Universal Recycling (Act 148) is to improve the diversion rates of these materials to prevent them from becoming landfill. As of the end of 2020, Vermont has phased in landfill bans on recyclables, leaf and yard debris and clean wood waste, and food scraps. The act also requires parallel collection (at the same location where trash is collected). Universal Recycling will also develop convenient and consistent services for Vermont residents and businesses statewide. According to Act 148, municipalities are required to:

- implement a variable rate pricing system that charges for the collection of waste by volume or weight
- provide containers for listed recyclables alongside all trash containers in public spaces and
- comply with phased-in landfill bans.

More information about Act 148 can be found on the website for the Vermont Department of Environmental Conservation at:

<https://dec.vermont.gov/waste-management/solid/universal-recycling>

## **Actions and Policy**

1. **It is the policy of the Town** to encourage cost-effective **waste disposal** practices that protect our environment.
2. Ensure that the Town and its residents are informed about and able to comply with requirements of the Universal Recycling Law (Act 148).

## **HEALTH SERVICES**

### **Goals**

1. Health services shall respond effectively to challenges arising from water contamination, communicable diseases, and other issues that may arise, working with State and Federal agencies and services to ensure that Guilford residents are in compliance with State regulations and not threatened by an unhealthy environment.
2. **It is the policy of the Town** that regional health facilities, services, and organizations shall be investigated, supported and utilized when they are in the Town's interest.

## Discussion

By law, every town in Vermont must have at least one Town Health Officer (THO) who is nominated by town government officials and appointed by the Commissioner of Health for a three-year term. Town Health Officers are given authority by Vermont statutes to investigate and mitigate any potential or existing public health hazard in his/her town. Each town has a local Board of Health made up of the town's selectboard and THO. The THO investigates all complaints, has extensive authority to take emergency mitigation steps, and enforces local health ordinances in Guilford. When exercising this authority, the THO must be careful to follow the due process procedures outlined in Chapter 3 of the State's THO manual.

The Town appoints a Health Officer whose duties include testing drinking water in apartment buildings, if asked, and organizing the Town's response to challenges arising from water contamination and/or communicable diseases. An individual may contact a health officer to complain of unsafe conditions in rental housing or on public or private property, or to report a septic failure, or an animal that might be rabid. The State is responsible for issuing septic system permits and investigating violations of septic regulations.

## Actions and Policies

1. **It is the Town's policy that** the Selectboard appoint a qualified healthcare professional to serve as the Town's Health Officer. One new function under this position is to assess on-going situations and crises, for example, pandemic situations (COVID-19) or those that might be caused by drug abuse, and create a proposal for addressing any concerns that arise.
2. **It is the Town's policy that** by law, the THO under the direction of the Selectboard,
  - a. shall make a sanitary survey of each schoolhouse, school lunch facilities, and any building used for public purposes, and
  - b. annually in the month of February report to Selectboard or the annual town meeting, as the case may be.

## TOWN GOVERNMENT

### Policy

**It is the Town's policy that the Town** Government shall administer and manage the affairs of the Town so that matters of mutual interest are heard and dealt with effectively with the best outcome possible for all residents. The Selectboard will:

1. convene semi-annual joint meetings of Town boards and officers to facilitate communications and decision-making; convene other special meetings as necessary;
2. maintain a central filing system for all Town records and publish in one booklet and online all Town ordinances, regulations and standards;



3. estimate annual capital expenditures for the next five years, providing the Town with a Capital Budget.
4. ask the Planning Commission to assess and respond to proposed new developments in Town.

### **Discussion**

The official business of the Town is conducted at the annual March Town Meeting which occurs the first Tuesday in March. The Guilford Selectboard conducts the business of the Town between Town Meetings, with the assistance of the Town Administrator.

## **FIRE and POLICE PROTECTION, EMERGENCY MEDICAL SERVICE, EMERGENCY MANAGEMENT**

### **Goals and Policies**

**It is the Town's policy that** the Town shall provide protection services to address threats to personal security and safety. Specifically,

1. The Select Board will assess the law enforcement needs of the Town. The Fire Department shall remain affiliated with Tri-State Mutual Aid and Southwestern New Hampshire Mutual Aid systems, or any other such system deemed important by the Chief and Trustees.
2. The Town will continue to support the Guilford Volunteer Fire Department (through appropriations from General Funds). Such funds should be used to help provide for adequate expenses of the Department and replacement of firefighting apparatus and equipment as needed to provide for the safety of the firefighters and First Responders and for the protection of Guilford residents and their properties.
3. Fire ponds and dry hydrants should be encouraged throughout the Town. Any person planning a pond or a pool is encouraged to discuss the plans with the Fire Chief or designated representative.

### **Discussion**

Fire protection and emergency medical service is provided to the Town by the Guilford Volunteer Fire Department (GVFD). Founded in 1949 and incorporated in 1955, the GVFD is headquartered at 108 Guilford Center Road. It currently maintains a number of vehicles and equipment, including a pick-up, a pumper, a tanker, a trailer, and a rescue sled. It provides fire fighting protection for buildings and its specially trained First Responders respond to all Town 911 calls for emergency medical and accident services, including the nearly four miles of Interstate 91 within the Town boundaries. Many volunteers serve and respond to more than 200 calls each year.

The protection of the Town from natural disasters is vested in the Emergency Management Organization (EMO). The EMO is primarily responsible in cases of flood, storms (ice, snow, and wind), earthquakes, etc., as well as any other emergencies.

In October 2016 the Town updated their Ordinance for Emergency Management of the Town of Guilford. The Selectboard appoints a volunteer organization for emergency management utilizing to the fullest extent the existing local and regional agencies, organizations, and individuals. These volunteers are organized to manage a Guilford Emergency Operations Center (EOC) and are based in the Town Office, with a backup located at the Fire Department. The Selectboard also appoints an Emergency Management Director (EMD). They are responsible for emergency operations and administration in Guilford.

The Town uses two existing emergency plans:

1. Local Emergency Management Plan (LEMP): adopted 12 April 2021 and to be updated and re-adopted annually; purpose is to provide guidelines and information to emergency responders and the Selectboard. It provides a list of resources and personnel available in an emergency and appropriate Incident Command System (ICS) forms and procedures. It also outlines certain personnel responsibilities in given situations and contains specifics regarding local emergency operations.
2. An All Hazards Plan developed by the Regional Emergency Management Committee (REMC) in cooperation with the Windham Regional Commission. (The REMC is a regional committee of the local emergency officials from each regional town; Guilford's EMD and Fire Chief serve as local representatives.) The REMC provides comprehensive guidelines for managing natural and man-made hazard emergencies.

### **Actions**

1. Encourage residents to be proactive about planning for and meeting emergency needs; create a database of available emergency services should a weather occurrence render roads impassable or knock out power for an extended period. Non-perishable foods and resilient backup power sources are essential.
2. To ensure Guilford's air quality, be aware of programs which monitor Vermont Yankee nuclear plant decommissioning, waste storage, and removal. Vermont Yankee, while not operating, still has significant radioactive waste stored on site, which, under some circumstances, could be released to the environment.

## **COMMUNITY FACILITIES and PUBLIC UTILITIES**

### **Discussion**

Land adjacent to public or quasi-public facilities, and services to such facilities (including but not limited to highways, fire station, school, library, parks, the Fairgrounds, hiking trails), shall be used in such a manner as not to endanger, jeopardize or interfere with the public's use and enjoyment of or access to the facility, services, or lands.

### **Policies and Actions**

1. Support the Town in planning, financing, and implementing an efficient system of public facilities and services to meet future needs.

2. To reduce their impact, **it is the Town's policy that** new or expanded public utility corridors (including power lines and telecommunications towers) shall be placed, where feasible, within or parallel to existing roads and utility rights-of-way. At the same time, every effort shall be made to preserve tree lines along our roads, which may require power lines to be placed in a field behind a tree line, a short distance from the road.
3. **It is the Town's policy to** plan construction or expansion of public facilities in a manner that will minimize any effect on adjoining lands and property. The construction or expansion of public facilities shall not significantly reduce the resource value of adjoining forestry or agricultural lands, unless there is no reasonable alternative.
4. **It is the Town's policy that** privately-owned facilities and services, such as water or sewage systems, be built to meet Town specifications. Any privately-owned community-type facility or service will not be accepted by the Town until the cost of maintaining or servicing such facility conforms to the Town's operating budget.
5. **It is the Town's policy that** private commercial development will not be allowed unless it is bonded to ensure that requisite infrastructure is fully complete. No parcel within the development should be transferred without such a bond.

# Economy and Business

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

*Guilford's economy is founded on a community-oriented, resident-led, collaborative philosophy that understands and leverages community relationships and resources and recognizes the importance of connectivity beyond Guilford. The economic environment of the Town will thrive in the coming years by supporting agriculture and forestry operations, tourism, and our current roster of businesses. Guilford supports small business development and new entrepreneurial enterprises. The following principles underlie this vision. Guilford's economic and commercial vision will:*

- *Increase opportunities for access to reliable high-speed internet;*
- *identify and leverage local resources, talent and expertise;*
- *reduce carbon emissions and minimize fuel expenses;*
- *facilitate and reinforce activities that adapt to and actively work to mitigate the impacts of climate change;*
- *facilitate co-work and collaboration between enterprises and the diverse talents and skills of its residents;*
- *create efficiencies within the community which support and increase economic resilience with sustainable tax revenues;*
- *help our citizens feed and support themselves; and*
- *actively assist our residents most in need.*

### GOALS and POLICIES

1. **It is the policy of the Town to** access available regional and state programs that guide and support economic development, including but not limited to the following agencies and initiatives:
  - a. Agency of Agriculture, Food, and Markets: for working lands;
  - b. Department of Forests, Parks, and Recreation: for outdoor recreation, healthier economies;
  - c. Agency of Commerce and Community Development: for Municipal Planning Grants, business-related economic and service resources;
  - d. Brattleboro Development Credit Corporation (BDCC) and Southeastern Vermont Economic Development Strategies (SeVEDS): for workforce training and assistance, economic resource planning and development, acquisition of rentable workspace to support industrial, manufacturing, service, and educational and art-based enterprises; and
  - e. Vermont Council on Rural Development (VCRD): for access to State-based resources and expertise, grant opportunities, and access to regional and State officials.

2. **It is the policy of the Town to** remain a member of the Deerfield Valley Communications District (DVCUD, dba DVFiber) which works to secure affordable and reliable Internet service throughout Guilford in keeping with the State's 2015 legislation. The Conservation Commission will maintain an accurate inventory of arable land so that the Town's residents can know what kind of agricultural products can best be supported sustainably.

## **DISCUSSION**

Guilford recognizes that a vibrant and sustainable economy and business environment is premised on a community that meets (or exceeds) the basic family and societal needs for its citizens. Such an environment encourages our children to stay and/or return to the area to grow their families, attracts other entrepreneurs, develops connections with educational programs in the region and beyond, broadens the economic base and, in turn, grows the tax and resource base to support Guilford. These activities facilitate a safe and productive learning environment for our youth and young families, and a safe community for older generations.

Current Guilford businesses are diverse -- landscape and plowing services, foreign language translation, bookkeepers, pet grooming and other animal husbandry services, tree care, farming, forestry, building trades, truck and auto repair, and a number of art-based professional endeavors (refer to [www.guilfordvt.net](http://www.guilfordvt.net) for the up-to-date list).

Increasingly, Guilford residents have embraced (or depend on) employment opportunities generated well outside of the region (i.e., Boston, New York, Washington, DC). To facilitate their ability to carry out their professional obligations from Guilford successfully, they must rely on a strong technological foundation. The relatively proximity to regional, national, and international transportation options, coupled with our lifestyle, family and community support services, makes living in Guilford an attractive choice. Yet, the lack of high-speed internet and cell phone service makes it exceedingly difficult for residents to participate in remote-work and school options.

Guilford strives to become a place to which our children, along with other younger individuals and families, will want and be able to live and build a sustainable economic future through initiatives that extend beyond opportunities afforded in the region, let alone in Guilford. To enable such an environment, Guilford needs a solid foundation with superior cellular and information technology capabilities for home-based or co-shared business operations. Such a foundation is not only essential to new business formation, it allows for residents to create and facilitate their professional enterprises and activities, and better connects Guilford-based businesses and residents with the resources and skill sets that will allow for better collaboration and growth.

In addition to creating a more hospitable environment for higher-tech ventures (which will also benefit the more traditional land-based businesses in Guilford) we also recognize that

farming and forestry operations continue to be a vital mainstay of Guilford's economy. We must take steps to ensure that these operations benefit from the ever-expanding awareness of the importance of "local, organic, and sustainable" foods (fruit and vegetables, maple syrup products, dairy, meats, etc.). A vigorous agriculture and forestry base can also help increase visitor and tourist traffic into Guilford, thereby enhancing the local and state economy.

Our farmers may benefit from the Value-Added Food Production movement in Vermont. It is important to have the facility and technical assistance to develop the capacity to add value to the raw products grown by rural Vermonters. The USDA Value Added Producer Grant Program helps independent producers increase their revenues by diversifying their production. The intent of the program is to help farmers receive a greater share of the consumer's dollar for the value-added agricultural products they produce. USDA Rural Development's mission is to "increase economic opportunity and improve the quality of life for people who live in our rural communities. In addition to the USDA, there is The Northeast Organic Farming Association of Vermont, a nonprofit association of farmers, gardeners, and consumers working to promote an economically viable and ecologically sound Vermont food system for the benefit of current and future generations. NOFA Vermont was founded in Putney in 1971, making it one of the oldest organic farming associations in the United States.

Importantly, Guilford has a diverse population with skills and expertise that can complement its farming and forestry enterprises, through which collaborative opportunities can lead to employment opportunities and the building and reinforcing of businesses on which the community can sustainably rely. As Guilford works to facilitate such a business environment, these efforts will also complement other important elements of this Town Plan, including those goals pertaining to a vibrant citizenry, healthy families, multidisciplinary education opportunities for the community's youth and its adults, commitment to sustainable and local environmental practices and energy efficiency, and active engagement between residents and commercial enterprise.

## **ACTIONS and POLICIES**

1. **It is the policy of the Town that** the Selectboard and other interested parties (residents and businesses) push DVFiber to complete the work of bringing town-wide cellular and reliable *high speed* (100 mbps or above) internet to Guilford. **It is the policy of the Town to** encourage opportunities in agriculture and forestry which use sustainable practices. To this end, the Conservation Commission will include in its inventory an accurate assessment of arable land and assess what/when development pressure is likely to reduce available land for agriculture; also, to develop an understanding of what kind of agricultural products can best be sustainably supported if/as climate change impacts our area.

2. **It is the policy of the Town to support the economic viability of local business;** examples of this might be a shared community commercial kitchen for value-added products and shared office spaces.
3. **It is the policy of the Town to** encourage environmentally sustainable practices in all business operations in Town, including but not limited to agriculture, forestry, auto repair, and construction. The Brattleboro Development Credit Corporation (BDCC) may be able to provide guidance.
4. **It is the policy of the Town to** ensure that businesses and industries act in an environmentally responsible manner, including the safe handling and disposal of toxic waste and hazardous materials.
5. **It is the policy of the Town to** promote economic growth that is consistent with local and regional objectives, including this Town Plan and the Windham Regional Plan *[see appendices]*.
6. **It is the policy of the Town to** continue to participate with Brattleboro, other surrounding towns, and the Windham Regional Commission in planning for future economic development.
7. **It is the policy of the Town to** encourage the concentration of any future growth of light manufacturing and non-home-based business and services in areas along Route 5 which are already developed, particularly in, or adjacent to, the Algiers Sewer District.
8. Allow for designated breaks for critical wildlife corridors, per the Proposed Land Use Map of this Town Plan when future development in the Town is being planned.

## Recreation

### *Vision, Goals, Discussion, Policies, Actions*

#### VISION

*Guilford provides plentiful opportunities to enjoy its natural attributes, including its small-town and rural character, through a wide range of healthy and welcoming recreation opportunities for citizens, as well as to visitors who may contribute to improving the local economy. The Guilford Recreation Commission was established in 2016 to carry out this vision.*

#### GOALS and POLICIES

1. **It is the Town's policy to** encourage recreational areas and activities, guarding against possible adverse effects on the land and landowners.
2. **It is the Town's policy to** encourage use and development of land and waters in such a way as not to significantly diminish the value and availability of existing outdoor or potential future recreational facilities.
3. **It is the Town's policy to** create a system of safe bypaths for bicyclists, horseback riders, and pedestrians along town roads, and inventory these bypaths and keep it current on the Town's website and Transportation Map.
4. **It is the Town's policy to** plan systems of recreational trails for hiking, cross-country skiing, snowmobiling, horseback, ATV riding, and bicycling, and acquire easements for the Town for public use and to keep motorized and non motorized recreation trails separate and show on the Transportation Map.
5. **It is the Town's policy to** preserve scenic views and other scenic resources that may require protection.

#### DISCUSSION

The only Town-owned recreational facilities are the playing fields at the Guilford Central School and the Guilford Center Village Natural Playscape. The State owns the two largest ponds in Town, Weatherhead Hollow Pond (and its boat access) and Sweet Pond and the trail around it. There are popular swimming holes on Broad Brook and Green River. The Guilford Recreation Club owns the playing field by the fairgrounds on Weatherhead Hollow. These are made available for public use. Adjacent to, but not part of, the Fairgrounds are tennis courts and a baseball/softball diamond. A nearby wooded area includes a "Boy Scout" cabin. Private land is often made available for public use with permission.

Opportunities for outdoor recreation abound through hunting and fishing; hiking, horseback and ATV riding; cross-country skiing, snowmobiling on established and well-marked trails; and picnicking. The Andrew Weeks Forest in Guilford Center (187 acres of conserved land) provides a nice walking trail to the old Guilford Mineral Springs site.



Many class 4 roads provide picturesque hiking to those who are aware of them. A VAST (Vermont Association of Snowmobile Travelers; (<http://www.vtvast.org/>) snowmobile trail (also used by cross-country skiers) throughout southern Vermont is linked to Vernon to the east, Halifax to the west, and Leyden to the south.

The private Sportsman's Club offers shooting and archery target practice and training courses to area youth and adults alike. It has a 25-yard pistol range, a 50- and 100-yard rifle range, and a trap range. It also has an extensive archery range. The trap range is open to the public on Saturday mornings. In spring, summer, and fall the club holds monthly rifle and pistol shoots open to all.

The appointment of a Recreation Commission was recommended by the Planning Commission in the 2015 Town Plan and the Recreation Commission was chartered in 2016 and has seven commissioners. Since its inception, it has been very active in providing family-centered recreation for Guilford. According to the mission statement, "The Guilford Recreation Commission fosters community connections and well-being for our town by supporting our public spaces and by collaborating with other community organizations to offer engaging, inclusive, recreational activities, designed to meet the needs of our neighbors."

Since 2016, the commission has provided Guilford with many well-attended community events, led an after-school sports program at Guilford Central School, supported recreational spaces in Guilford, and created a Nordic Ski program for elementary-aged school children. The Town supports opportunities to collaborate with entities such as the Recreation Club and the Guilford Fairgrounds for additional recreational opportunities.

*Community Events:* The commission has established several annual, free family-friendly events in Guilford: Winterfest at the Fairgrounds, Bike Night, Guilford Community Picnic, and Trunk-or-Treat. These events have broad attendance (especially Trunk-or-Treat) and support our community of young families. These events have also served as an opportunity to collaborate among other commissions and Guilford organizations, opening up communication among these groups.

*After-School Sports at Guilford Central School:* The re-establishment of a school sports program was one of the major focuses of the commission early on. The commission coordinated volunteers, sign-ups, and many of the commissioners volunteered their own time to provide opportunities for GCS students to hone their basketball, soccer, and baseball skills after-school. These programs not only kept kids in Guilford for sports activities, but also provided working parents with an option to keep their children engaged in the gap between the end of the school day and the end of the workday. Once the program was established, the physical education department at GCS took over the coordination of these activities.

*Bill Koch Nordic Ski Project:* This project began as a Nordic ski trail development project, to create more “official” ski trails in Guilford while honoring our local Nordic ski Olympian, Bill Koch. The first trail loop was created around GCS in 2018, and more trails are planned as the commission finds more willing landowners to participate. The project also promotes training the next generation of Nordic skiers in Guilford by providing both lessons and ski packages (skis, boots, poles) to elementary school age children. The next steps of this project are to establish Nordic skiing as an option for the winter sports program at GCS, create a collection of skis for adults to borrow from the Guilford Free Library, and to further trail development. This project has been funded through grants, private donations, and the Recreation Commission’s budget.

*Birth to Five Playgroups:* The commission collaborated with the Community Collaborative for Guilford (CC4G) to provide free playgroups for families with young children. Starting in the winter of 2017 – 2018, the commission and CC4G began the Saturday morning “Birth to Five Open Gym” playgroup. The playgroup gives young children a place to develop gross motor and social skills in the middle of winter, when it can be difficult for children to play outside. The playgroup also serves as a way for Guilford young families to meet and form relationships. Now in its third winter, the playgroup has a regular group of attendees and has fostered many family connections. This project was initially funded by CC4G and is now funded by the Recreation Commission budget.

*Guilford Center Village Natural Playscape:* The Playscape began in 2014, as a community effort and came under the care of the Recreation Commission. The commission initially worked to coordinate regular mowing and maintenance of the property and went on to further develop its land-use vision with a sub-committee of community members. The commission worked to secure two grants to promote further playscape development: a smaller grant from RiseVT for expanding the current garden space, and the larger Vermont Building Communities Grant which is aiding in the development of a safer parking lot and a handicapped access trail around the whole property.

## **ACTIONS**

The Planning Commission recommends the Town continue to support the activities of the Recreation Commission, to plan for and inventory safe byways, publicize recreational resources, and monitor the impact of current and future recreational facilities and activities on land value and usage. Specifically, the Town will support the Recreation Commission to:

1. Explore the possibility of using State aid and/or private funds for the development and maintenance of current and future recreational trails in the Town.
2. Seek funds for planning for and construction of a system of paths along our roads to provide for the safety of pedestrians, horseback riders and bicyclists.

3. Seek funds to identify and acquire easements for a system of recreational trails for hiking, cross-country skiing, snowmobiling, horseback riding, and bicycling.
4. Support the efforts of residents to preserve recreational facilities on private land, such as the Green River Dam, a structure of considerable recreational and historic value to the Town.
5. Be responsive to private landowner concerns about property rights and liabilities if opening their property for recreational purposes.
6. Encourage Town-wide recreational events (e.g., foot and snowshoe races, bicycle rides, walks and hikes, etc.) and coordinate these efforts with other Town groups.

# Transportation

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

*Guilford's transportation infrastructure and systems provide safety, convenience, and service commensurate with need; respect the quality of the natural environment; and avoid waste and inefficiency. They aim to fit the pattern of traffic, present and future, to the environment envisioned in the Town Plan, rather than allowing the demands of motorists and engineers to dictate the shape of the Town.*

### GOALS

1. Preserve the scenic wealth of our landscape for future generations.
2. Increase the safety of our roads for pedestrians and bicyclists according to Act 34.
3. Increase the availability and convenience of public transportation.
4. Establish a bike trail network for residents, visitors, and tourists.
5. Construct new access points (driveways and private roads) to Town-maintained roads in a safe and environmentally-responsible manner.

### DISCUSSION

The Town road system includes a section of Interstate highway I-91, which runs north and south for 3.9 miles in two sections along the east side of Town; one U.S. highway, Route 5, which also runs north and south roughly parallel to I-91 for 6.8 miles, in two sections along the east side of Town; and 66.9 miles of Town highways: none in Class 1, 17.25 miles in Class 2, 49.55 miles in Class 3, 8.92 miles in Class 4, and 4.05 miles of Legal Trails. There are approximately 10 miles of private roads named for E911 purposes. Currently there are no additional Federal or State highways planned for the Town.

Algiers Village is a relatively compact area with residences, churches, a general store, services, and businesses. A sidewalk extends from Coolidge Highway (Route 5) along a short distance of Guilford Center Road. Additional sidewalks, pathways, and traffic calming measures would improve safety and access for pedestrians and bicyclists who often feel threatened. There is regular daily bus service between Brattleboro and the Guilford Country Store.

In July 2011 the Vermont State legislature passed the Complete Streets program (<http://www.leg.state.vt.us/docs/2012/Acts/ACT034.pdf>) requiring municipalities to consider multi-modal transport as roads come up for repair. This program allows the Town to address the very real concerns for pedestrian and bicyclists' road safety piece-by-piece.

Driveways and private roads that intersect with Town roads can have an adverse impact on Town roads. If these are not properly constructed and maintained, severe weather may

create problems that increase the burden on not only the Town's Highway Department but also on emergency services.

### **ACTIONS and POLICIES**

1. **It is the Town's policy that** the transportation system provides the needed convenience and service, while respecting the integrity of the environment.
2. **It is the Town's policy that** the Town will develop, expand and/or maintain public utilities within or parallel to highway or public utility rights-of-way corridors, so that they may be readily maintained. The intent is to reduce adverse physical and visual impact on the landscape and achieve greater efficiency in expenditure of public funds. This includes the possibility of placing wires and transmission lines a short distance from the road, in a field, to preserve a tree line.
3. **It is the Town's policy that** the town will retain all present public rights-of-way, whether or not they are currently being maintained by the Town. No tract of land should be allowed to become "landlocked" by the relinquishment of a public right-of-way.
4. **It is the Town's policy to** ensure that the Complete Streets program is kept on the front burner over the years. Before new construction or major reconstruction of roads and highways is undertaken, the Town will consider the effects of the improvement on traffic speed as well as the possibility of adding biking and pedestrian lanes. Within Algiers Village, the Town shall consider the feasibility of extending the existing sidewalk and pathways, along with improving pedestrian access and safety.
5. **It is the Town's policy to continue to investigate** traffic calming measures and lowering speed limits in village centers to increase driver awareness of populace and conditions.
6. **It is the Town's policy** to oppose any further major Federal or State highways through its territory.
7. **It is the Town's policy that** further paving of existing Town roads shall be subject to review by the Selectboard, and should be based on engineering studies, the relative cost of maintenance, and available funds. New paving projects shall be placed before the voters at Town Meeting after an informational meeting has been held.
8. **It is the Town's policy that** the Town Road Commissioner will enforce Town regulations regarding culverts, run-off, set-backs and safe engineering when approving new driveways and private roads and enforce the existing Driveway Ordinance, including slopes when entering public roads, adequate culverts and proper drainage, safe engineering and adequate lines-of-sight for oncoming traffic.
9. **It is the Town's policy that** public parking areas shall be provided in hamlet areas as the need arises, especially in Algiers and Guilford Center. In order to achieve this Policy, the Town should consider purchasing, or accepting as a gift, property that becomes available in these areas.

10. **It is the Town's policy that**, when bridges or public roads need to be replaced, the Town shall consider the impact of the new structures, both in terms of public safety and convenience and of the rural character of the Town (i.e., the temporary closure of the bridge on Route 5 at Melendy Hill and Broad Brook Roads or the Green River covered bridge).
11. **It is the Town's policy that** the Town shall cooperate with surrounding communities to promote Amtrak and other appropriate means of mass transportation in the area.

# Historic and Cultural Resources

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

*Guilford will continually protect and preserve its historic and cultural resources.*

### GOALS

1. Identify, protect, and preserve important historic and cultural resources of Guilford including outstanding water resources and wetlands, agricultural and forest land, significant scenic landscapes and views, important archeological sites, and historic structures, sites and districts.
2. Educate citizens of Guilford about historic and cultural resources in Town.

### DISCUSSION

Guilford has a long and rich history. During Guilford's early years as an official State town, it was the largest town in the young state of Vermont. There are many buildings and sites of historical and cultural significance that deserve respectful consideration in our efforts to preserve Guilford's historical and cultural heritage. This heritage forms the foundation for Guilford's current and future vitality and Guilford's citizens have repeatedly and clearly conveyed the message that protecting this heritage is an important priority. The loss of cherished historic and cultural resources diminishes a community's identity and ignores the rights and needs of future generations. The wise use and preservation of these Guilford attributes are a matter of the public good, as well as being vital to the future of our Town.

These include federally and state designated resources as well as locally recognized resources. There are also several homesteads and homes of significant historical and value to the Town.

### ACTIONS and POLICIES

1. **It is the Town's policy to** identify, maintain, and preserve archeological, architectural, and historic sites and districts.
2. When considering Town ordinances affecting commercial activity, **it is the Town's policy** that the location of businesses shall be governed by the concept for protecting and preserving the rural character of the town.
3. **It is the Town's policy to** support the Cemetery Commission's efforts to ensure the integrity of the Town's cemeteries.
4. Update the Town's Historical Sites map to reflect the 1961 Planning Commission map and other known sites of interest to Guilford not currently listed.

### **Historic Sites in Guilford**

1772	Benjamin Carpenter House
1774	Houghton Tavern
1774	Indian Rock
1790	Guilford Mineral Springs Farm
1790	Herm Ashworth House
1791	Brick School House
1800	Old Town Pound
1804	Guilford Mineral Springs
1814	Bullock Farm
1814	Captain Henry Chase Tavern
1818	West Guilford Baptist Church
1819	Broad Brook House
1819	Tontine Building
1819	Christ Church
1821	Town Hall - Guilford Museum
1837	Guilford Center Meeting House
1838	Green River Church
1845	Green River Tavern
1855	Community Church
1873	Green River Covered Bridge
1873	Green River Dam
1873	Green River Mill Dam
1873	Green River Mill Foundation
1890	West Guilford Blacksmith Shop
1891	Guilford Free Library
1896	Broad Brook Grange Hall

These are a list in progress and is not exhaustive of the historical sites in Guilford. If you have recommended additions, contact the Planning Commission.

### **Guilford Cemeteries**

Baker Cemetery  
Billings Cemetery  
Blanchard Cemetery  
Burrows Plain Cemetery  
Carpenter Cemetery  
Christ Church Cemetery  
Colgrove Cemetery

Groll Cemetery  
Guilford Center Cemetery  
Lee Cemetery  
Maplehurst Cemetery  
Stark Cemetery  
Weatherhead Hollow Cemetery  
West Guilford Cemetery



Franklin Cemetery

Wilkins Hill Cemetery

# Natural Resources

## *Vision, Goals, Discussion, Policies, Actions*

### Natural Resources: Vision, Goals, Discussion, Policies, and Actions

#### **VISION**

The health and vitality of the Guilford community is inextricably tied to our natural environment. As stewards of our land, Guilford volunteers, leaders, and residents will anticipate change and manage growth in a way that conserves our natural resources and ensures sustainability for future generations.

#### **GOALS: General**

1. Preserve and improve the quality and ecological integrity of our air, land, water, and plant and wildlife resources.
2. Increase public awareness of and access to information on current best practices for land management, conservation, and related topics.
3. Encourage appreciation and enjoyment of Guilford's natural resources.
4. Protect Guilford's natural resources in planning for new development.

#### **DISCUSSION: General**

A diverse and dynamic natural environment is fundamental for maintaining a healthy and vital community. Guilford is fortunate to possess diverse natural resources that are critical for food, shelter, human health and economic well being, as well as recreation and aesthetic sustenance. Planning is required to make these resources sustainable over time. Global and local pressures, including climate change and climate migration, increasingly threaten our natural resources. Thus, it is important to consider the larger context beyond Guilford. Preserving farmland, forests, water resources, significant natural communities and wildlife habitat is possible only through regional cooperation and with an informed citizenry. The following important topics are included in our Town Plan discussion of Natural Resources: Forests and Wildlife Resources, Agricultural Resources, Water Resources, Air Quality, and Earth and Mineral Resources.

#### **POLICIES: General**

It is the Policy of the Town of Guilford to:

1. Increase knowledge of Guilford's ecology and provide a deeply informed foundation for planning conservation efforts, development, and responses to natural disasters. This empowers us to understand what resources we have, how they interact with each other, and how our environment may respond to various pressures, so we can better direct efforts to protect these resources and adapt to future changes.
2. Integrate the conservation of natural resources with the needs of agriculture, forestry, recreation and other Town needs and interests.

3. Encourage land use practices that maintain and/or improve the health of our natural resources and discourage practices that degrade or put them at risk.
4. Identify, protect and preserve significant natural areas, as well as sites of special educational, scientific, historical, architectural or archeological significance or beauty.
5. Support sound siting of energy facilities, cell towers, and other infrastructure by ensuring that new development undergoes adequate environmental review, avoids fragmentation, does not cause undue harm to Guilford's natural resources, and adequately considers site constraints and facility requirements.
6. Require, where possible, that public utilities and transportation facilities integrate use of the same corridors to minimize the environmental and aesthetic impacts of fragmentation.
7. Identify, establish, and maintain reserves for wetlands and prime agricultural and forest lands and other special natural cultural resources.
8. Identify locations where forests can remain unmanaged in perpetuity.
9. Support Land Trusts and other conservation organizations and programs in preserving and restoring agricultural and forest lands, and other important natural and cultural resources.
10. Purchase or accept rights to properties that need protection and/or would be of benefit to the Town; encourage and support the purchase or lease of private property for public use; and support a mechanism, such as Guilford Preservation, Inc., whereby these transactions are possible.

#### **ACTIONS: General**

1. Communicate the elements of the Natural Resources Inventory to townspeople as they pertain to land management, land conservation, and our quality of life. (Conservation Commission)
2. Engage townspeople in activities that identify areas of high public value and help develop a vision for managing Guilford's natural resources. (Conservation and Planning Commissions)
3. Incorporate information from the Natural Resources Inventory and the community visioning activities into the next cycle of the Town Plan. (Conservation and Planning Commissions)
4. Increase resident and landowner access to information about land management and conservation, using print and digital media, community workshops, and other means. (Conservation and Planning Commissions)
5. Expand the Conservation Commission page on the Town website with digital maps and a database of the inventory, develop print materials for distribution, and maintain a reference library that includes information on conservation, land management, invasive species, and related topics. (Conservation Commission)
6. Communicate with State, regional, and other organizations to increase citizen participation in training, mapping, and information sharing through print and digital means. (Selectboard, Conservation and Planning Commissions)

7. Work with neighboring conservation groups and commissions to plan for natural resources protections at a regional scale. (Conservation Commission)

## **Forest and Wildlife Resources**

### **GOALS: Forest and Wildlife Resources**

1. Maintain and improve the ecological integrity of intact forest blocks and habitat connectors.
2. Protect and enhance biological diversity in Guilford.
3. Maintain and improve forest blocks that are large enough to support working forests.
4. Engage townspeople in protecting forests and wildlife.

### **DISCUSSION: Forest and Wildlife Resources**

(See also the Natural Resources, Existing Land Use, and Future Land Use Maps)

Throughout more than 250 years as a town, Guilford has kept its rural landscape, characterized by small, scattered settlements set among forests and fields. Consistent with statewide patterns of reforestation, Guilford is now heavily wooded as compared to the open landscape of 150 years ago.

Forests provide significant benefits to the health and integrity of our community and environment by providing ecological services such as flood mitigation and carbon sequestration, creating habitat critical to the survival of many plant and animal species, improving air and water quality, promoting human health, and providing natural resources for economic and recreational benefits. Forests host an abundance and diversity of wildlife and plants. The combination of large areas of forestland, open fields, and large tracts of undeveloped land in Guilford provide excellent habitat for deer, bear, turkeys, warblers, occasional moose, ginseng, trilliums, cohosh and lady's slippers in our woods; great blue herons and kingfishers in our wetlands; and snakes, woodcocks and songbirds in our fields, to name just a few.

Guilford's forests are also part of a much larger forested landscape that stretches from the Berkshires in Massachusetts, through the Green Mountains of Vermont and on to Quebec and Nova Scotia. Identified as the Northern Appalachian/Acadian region, it is one of the most intact, temperate broadleaf forests in the world and home to millions of birds, fish, insects, and mammals. Guilford's own forests sit in the middle of this region and connect to forests in neighboring towns, forming an important network of local wildlife corridors that connect the Berkshires to the Green Mountains. Mapping by The Nature Conservancy shows routes that mammals, birds, and amphibians will need to find hospitable climates to survive. The large forest blocks in western and central Guilford and the Connecticut River and its tributaries are predicted to be important migration routes. We embrace our responsibility to conserve and enhance our region's biodiversity by supporting and creating healthy habitat for our wild neighbors.

Beginning in January 2018, State Planning Goals have been updated to conform to VT Act 171, which encourages towns to identify state, regional, or locally significant forest blocks

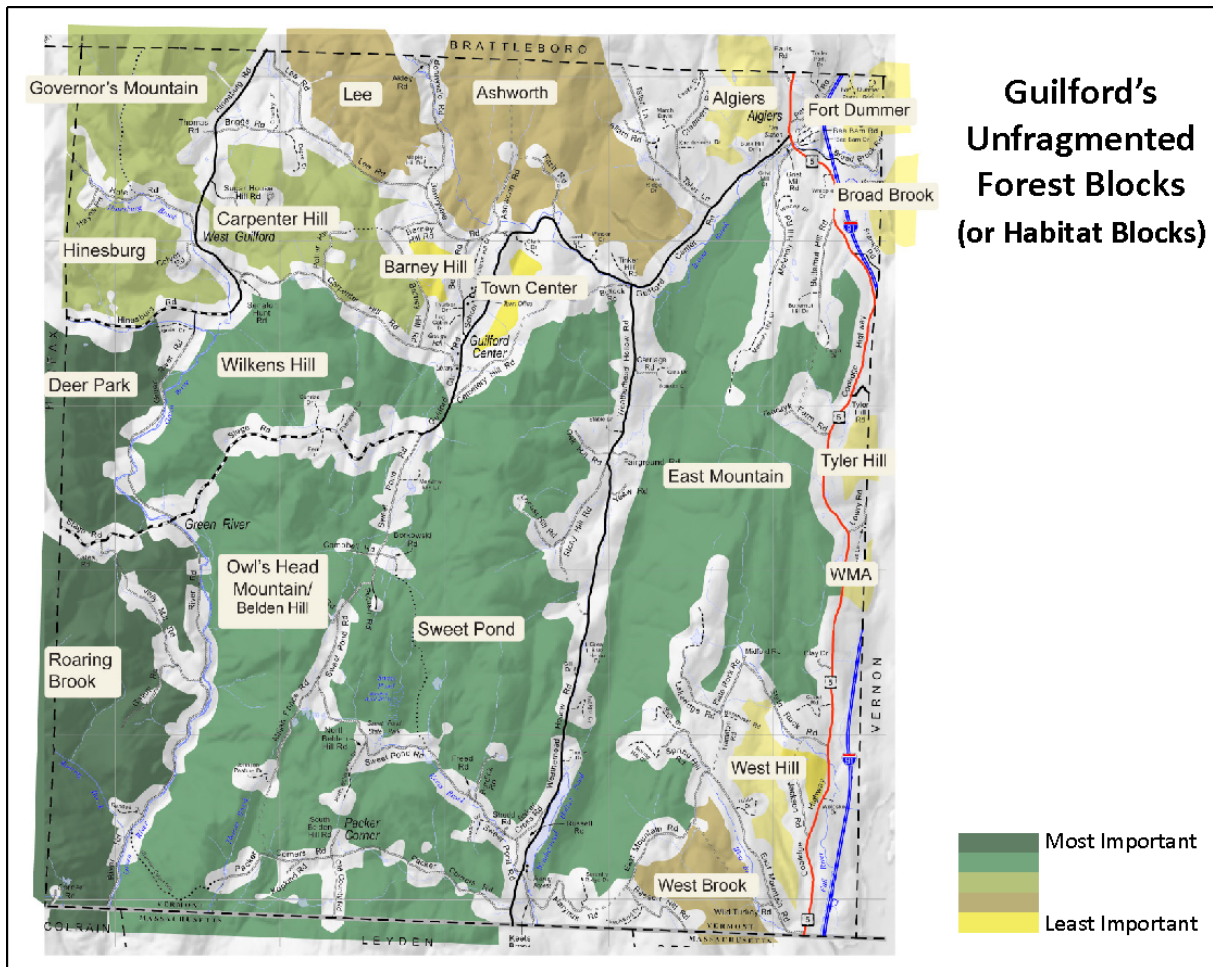
and habitat connectors and to include language to encourage their conservation in their Town Plans. To better understand the natural resource protections provided for in Act 171, it is important to start with the new forest planning definitions.

- **FOREST BLOCK:** a contiguous area of forest in any stage of succession and not currently developed for non-forest use. A forest block may include recreational trails, wetlands, or other natural features that do not themselves possess tree cover.
- **FOREST FRAGMENTATION:** the division or conversion of a forest block by land development other than by a recreational trail.
- **HABITAT CONNECTOR:** land or water, or both, that links patches of wildlife habitat within a landscape, allowing the movement, migration, and dispersal of animals and plants and the functioning of ecological processes. A habitat connector may include recreational trails.
- **RECREATIONAL TRAIL:** a corridor that is not paved and that is used for recreational activity.

### **Forest Blocks**

Forest blocks, also called habitat blocks, are areas of natural habitats (woods, wetlands, old meadows etc.) that are unfragmented by roads, development, or agriculture. Forest blocks can range in size and are identified by the land cover of an area, not by political or parcel boundaries. A healthy forest pattern is a network of contiguous streams and forest blocks that extends across town, interrupted only by a few roads or non-forest land cover, and that also connects to forest blocks beyond the town boundaries.

Guilford's landscape is divided by roads into 28 forest blocks ranging from 20 acres to over seven square miles. The map below shows the largest of these. Ten of the blocks shown are larger than 500 acres in size, all of which are ranked as conservation priorities in Vermont, whether for regional connectivity, core habitat, or both. The Agency of Natural Resources (ANR) also ranks forest blocks for their biological and conservation value based on 11 biological and physical diversity factors. Their highest-ranked blocks in Guilford are the Deer Park block, much of which is in Halifax, and the Wilkens Hill block. ANR gives the East Mountain block its second highest score. Local fieldwork has identified the Roaring Brook block as the highest priority block for protection because of its diverse Rich Northern Hardwood Forest, a large bear mast stand, and significant wetlands. Other high-ranking blocks worthy of protection include Governor's Mountain, Owl's Head Mountain/Belden Hill, Sweet Pond, and East Mountain.



## **Habitat Connectors**

Habitat connectors refer to land or water that links larger patches of habitat within a landscape to allow for the movement, migration, and dispersal of animals and plants. Examples include small habitat blocks that serve as stepping stones between core forest, habitat along streams and rivers, ridgelines, strips of forest cover between developed areas, hedgerows, and fencerows. Sizes can range from a fraction of an acre to one or two hundred acres.

Movement of animals from one habitat patch to another is the most common function attributed to habitat connectors. This is true for animals with both wide and small ranges. Bobcats and black bears might use connections quite frequently, whereas spotted salamanders might use them only a few nights each spring to move from hibernation sites to breeding pools.

Habitat connectors can be considered at two scales: landscape and local. Landscape scale connectivity is important for connecting populations of wildlife over large areas or within a region. The Green River and its watershed, which connects undeveloped forest and riparian lands within several towns and two states, has been identified as an important landscape scale habitat connector. Habitat connectivity at the local scale involves a mix of smaller forest blocks that connect the larger connectivity blocks as well as locations where wildlife can successfully cross over or under roads. In some cases, fish and wildlife movement associated with specific road crossing areas is seasonal, such as the salamander migrations in early spring. In other cases, movement includes the simple happenstance of animals looking for new food sources on the other side of the road.

Roads and development are impediments to the movement of a number of species. The busier the road and the denser the development, the greater the challenge for wildlife. This is especially true for animals that prefer to avoid human disturbance like bears, bobcats, and mink. These are among the species that will cross roads only where they feel most secure—where there is good cover on both sides, access to forest blocks, and little human activity. While good wildlife road crossing sites exist between most of Guilford's forest blocks, there are places, especially in the northeastern part of town, where these crossing zones are few and narrow. The Future Land Use Map includes road crossings and habitat connectors identified in State maps. The Conservation Commission and naturalist Patti Smith have identified other important road crossings and habitat block connectors shown on the following page.

The Connecticut River in southern Vermont is predicted to be an important migration route for climate change movement of mammals, birds and amphibians. I-91 is a major impediment to east-west wildlife movement, as is Route 5, though to a lesser extent. Riparian corridors beneath these roads may provide habitat connectivity. The Agency of Natural Resources has noted that the Fall River is a very important Rare, Threatened, and

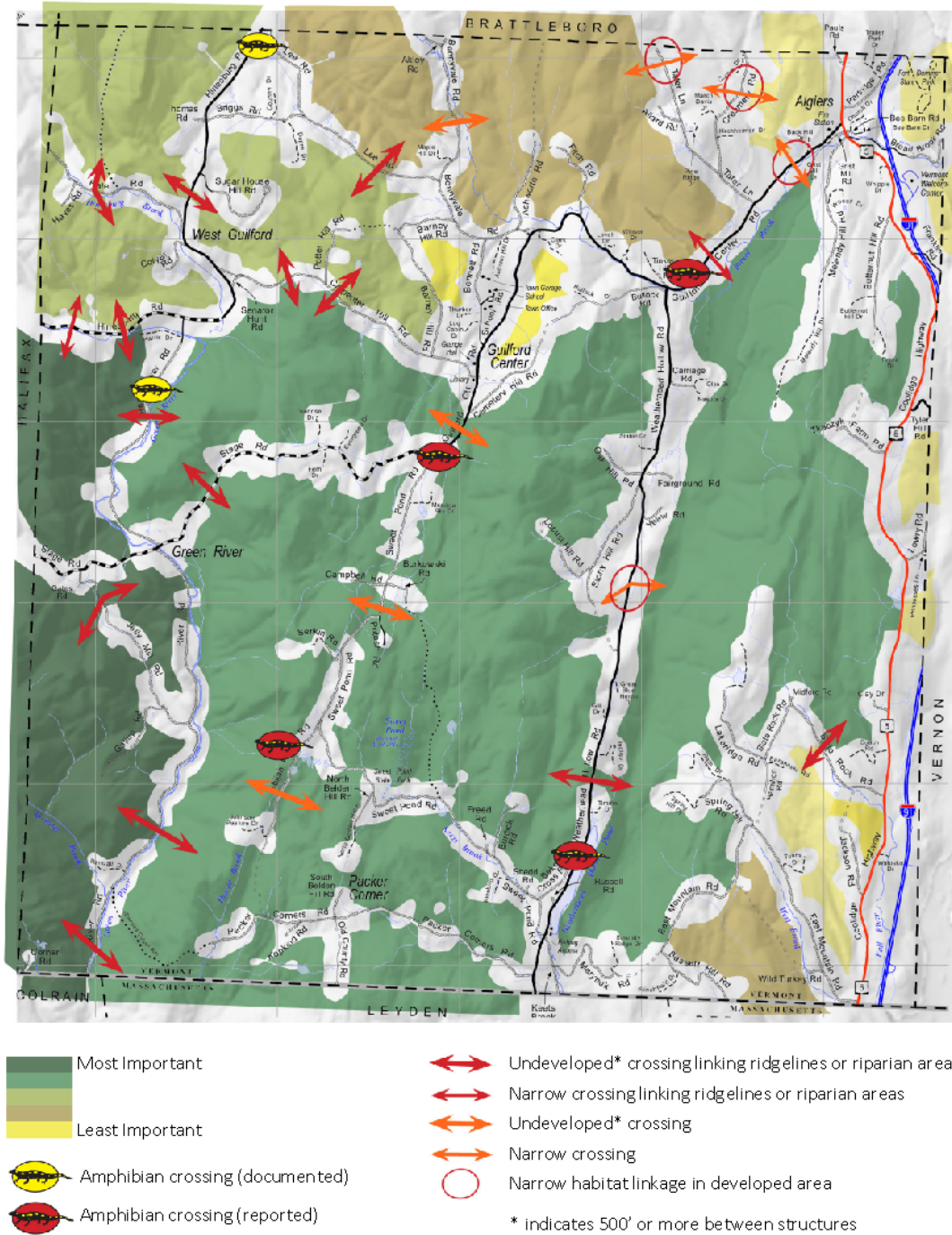


Endangered Species corridor and has set protection and enhancement of wildlife crossing access across I-91 as an objective.

### **Forest Fragmentation**

The primary driver of forest fragmentation in Vermont today is rural sprawl. This type of fragmentation occurs incrementally, beginning with cleared swaths or pockets within an otherwise unbroken expanse of tree cover. Over time, new roads, homes, businesses, driveways, and yards intrude into connected forest acres. Eventually, the contiguous forest is reduced to scattered and disconnected forest islands surrounded by land uses that threaten the health, function, and value of these forests as animal and plant habitat. Furthermore, as forest fragments become ever smaller, practicing forestry becomes operationally impractical, economically nonviable, and culturally unacceptable. In turn, we lose the corresponding and significant contributions that forestry makes to our own economy and culture.

## Guilford's Unfragmented Habitat Blocks and Road Crossings



## Ecologically Functional Landscape

Ecological function—the ability of plants and animals to thrive, reproduce, migrate, and move in response to land-use changes and climate changes, and the ability of ecosystems to function under natural processes—is served by high-quality terrestrial and aquatic habitat,

natural connections across the landscape, a wide variety of habitat features from low elevation to high, clean water, and healthy rivers, streams, lakes, ponds, and wetlands.

An ecologically functional landscape contributes to regional conservation by maintaining species and habitat conditions that may be in regional decline (such as grassland birds and their habitat), or that may be well-represented in Vermont but regionally rare. It must be well-connected at multiple scales, allowing species movement and gene flow across the landscape. An ecologically functional landscape is also resilient, allowing species to shift distributions and natural communities to rearrange themselves in response to a changing climate and other stressors.

### **Forest Productivity**

Guilford has unusually productive forestlands when compared to much of Vermont and Windham County. Guilford has about a dozen blocks of highly productive forest land with significant acreage, as well as several additional blocks shared with adjacent towns. All but two of these habitat blocks rank in the top 10% of blocks in the state for forest productivity (based on a statewide forest productivity analysis by Jon Osborne, GIS Director for the Vermont Land Trust, which ranks habitat blocks of over 500 acres. (Source: [https://fpr.vermont.gov/forest/vermonts\\_forests/action\\_plan](https://fpr.vermont.gov/forest/vermonts_forests/action_plan)).

### **Old Growth Forests**

No "old growth forests" have been found in Guilford. These are defined as forested ecosystems that have developed over a long period of time, usually over several centuries. In addition to demonstrating how forests naturally grow and develop, old growth forests are diverse and resilient, feature amazing habitat opportunities for wildlife, provide clean air and clean water, and store more carbon than the relatively young forests that dominate Vermont's landscape today. Vermont contains very little old growth forest, although ecologists have placed an ideal target of 6.7% of Vermont's landscape (9% of our forests) to be maintained as "old forest." The Conservation Commission has identified the Deer Park, Roaring Brook, Owl's Head/Belden Hill, Governor's Mountain, and Sweet Pond blocks in Guilford as potential areas for establishment of old growth forests because they are on rich bedrock, have high landscape diversity, and are large enough to have big core areas of old growth areas.

### **Threats to Forests**

Large, continuous tracts of woodland are needed to support natural community biodiversity and the economic viability of the working forests. Unfortunately, as rural residential development continues to grow, it undermines the quality of the rural landscape. The loss of forests and their benefits reduces the overall sustainability and resiliency of our community. These short and long-term impacts have fiscal implications through increased costs associated with infrastructure, water quality, or emergency services previously supplied by forests. After a century of forest regeneration, Guilford is now losing forest cover to scattered residential development.

Fragmentation has been exacerbated by the growth of large development envelopes (the area of land impacted by structures and infrastructure, including driveways) and by locating new development in previously undisturbed forest areas. For example, between 2001 and 2019, 164 structures were built in Guilford, 60% of which were more than 300 feet from a public road, disturbing habitat blocks. Guilford is experiencing fragmentation from parcelization as well as development. Parcelization, the subdivision of forestlands into smaller lots, typically results in a greater number of landowners and negatively impacts wildlife habitat, plant and animal species, water quality, and the land's ability to provide ecological services. Parcelization also degrades the economic viability of forestlands, including the ability of landowners to practice sound land management. Factors driving parcelization include increasing property taxes, changing demographics, and a lack of estate planning that considers long-term forest conditions. Much of this type of development never triggers Act 250 review.

Other significant threats to our forests include pollution (including acid rain), climate change, invasive species, and deer overbrowsing. While historical evidence shows that great changes have occurred in the region for well over 100 years, today we see accelerating changes in forest composition and health which have significant and long-term, possibly irreversible, implications. Climate change in the northeast is causing higher year-round temperatures and greater extremes in weather patterns with rainstorms that increase in frequency and severity, as well as longer periods of drought. The result is that forest composition is changing as the habitat ranges of plants and animals migrate northward. Locally, this shift in forest composition will result in maple and birch trees giving way to more southern species of trees. We already see evidence that Guilford's forests, especially maple-dominated communities, are threatened by climate change and, in some places, over-browsing by deer.

Forest health may suffer as these increased stressors make trees more susceptible to disease and pests. We encourage thoughtful forestry practices on woodlands and encourage landowners to develop Forest Management Plans to ensure comprehensive and sound management practices on their lands. Indiscriminate forestry practices threaten the integrity and health of our forest and water resources, as well as historic resources such as stonewalls and cellar holes, and must be avoided.

### **Deer Wintering Habitat**

Deer wintering areas, commonly referred to as deer yards, are defined and delineated by the Vermont Department of Fish and Wildlife. These areas are so designated because of their vegetation, slope, and other factors that shelter the deer from the harsh winter. They generally consist of areas where coniferous forests dominate. Equally important are corridors linking them together and to other undeveloped areas in order to facilitate deer's annual migration from summer to winter habitats. A community's deer wintering areas may serve a deer population from several miles around. In addition to deer, nearly half of

Vermont's vertebrate wildlife species rely on coniferous forests for at least part of their life cycle. It is important to note that deer wintering areas are often located on the "edge" between core habitat areas and areas with more densely populated human settlements, putting them at greater risk of negative impact from development. Deer wintering areas change location and size periodically due to changes in development, diseases, and climate change.

### **Bear Habitat**

Eastern Black Bears require large unbroken forest lands and a diversity of seasonally-changing ecosystems for their survival. During the springtime, wetlands are among the first habitats to green up and provide critical forage when other food is scarce. Streams, rivers and other water bodies also are important. As the summer progresses, early successional ecosystems provide berries and other forage. In preparation for hibernation, bears move into woodlands, particularly oak and beech stands, to feed on nuts (one of these stands has been identified in the Roaring Brook block). Each habitat is important to bear survival, as well as areas between them that connect each ecosystem. Habitat fragmentation restricts bear movements, reduces food supplies, and increases chances for collisions with automobiles and contact with humans. Fragmentation of bear habitat should be minimized, while access to seasonal food and shelter should be protected.

### **Significant Natural Communities**

Significant natural communities are areas that, due to their uniqueness, vulnerability, irreplaceability, and/or important ecological function, warrant special protection. Such areas include floodplains, riparian areas, wetlands, vernal pools, high elevations, steep slopes, important habitat blocks, and habitats of rare, threatened and endangered plant and animal species.

The Vermont Fish and Wildlife Department maintains the State's Natural Heritage Inventory, which is a database of rare, threatened, and endangered plant and animal species, and significant natural communities. In Guilford, the inventory identifies seven significant natural communities. The most significant of these include three occurrences ranked as rare in the state (a river cobble shore, a sugar maple-ostrich fern riverine floodplain forest, and a rich fen), and one occurrence ranked as uncommon (dry oak-hickory-hophornbeam forest). The state inventory also contains information on rare, threatened, and endangered plant and animal species identified in Guilford. Approximate locations are shown on the Natural Resources Map. The natural resources inventory now underway by Guilford's Conservation Commission will contribute more local data on rare, threatened, and endangered species and significant natural communities.

### **Strategies for Mitigation**

There are numerous strategies that address threats for forest health. Fragmentation can be discouraged by improving public awareness about forest threats, increasing participation in conservation easement and Use Value Appraisal programs, and encouraging low-impact

development practices and smaller development envelopes. Minimizing the size of building footprints, driveway lengths, lawn and cleared areas, and other infrastructure can also reduce the impact of development on forests.

Several options are available to Guilford residents and the community for encouraging the conservation of lands, including conservation easements, the Use Value Appraisal Program, the acquisition of Town Forests, and succession planning within families that provides for the transfer of forest land from one generation to the next. The Vermont Land Trust, The Nature Conservancy, and other conservation organizations protect forest and agricultural land from development through a range of programs such as conservation easements and land acquisition. Guilford currently has 1,147 acres (4.5% of the town) under conservation easements, which are preserved in perpetuity. Landowners may also have deed restrictions developed to limit future uses on lands. Guilford may benefit from acquiring town forest lands, which provide many opportunities to improve the quality of life for residents through public education, natural resource extraction, and recreation.

The State's Use Value Appraisal (UVA) Program, also known as Current Use, provides tax benefits to the landowner on eligible lands that are practicing forestry and agriculture. Eligible forestland parcels must be at least 25 acres in size and must be actively managed under a forest management plan. Within this program, the State reimburses the town for tax liability loss resulting in no loss of revenue to the town. In exchange for the tax benefits, lands enrolled in the program have a lien against development for the period in which the property is enrolled. It is widely cited as one of the most important factors in conserving farm and forest land in the state. As of 2019, there were a total of 139 parcels enrolled in the UVA program in Guilford with 10,838 acres enrolled as working forest and 1,633 acres enrolled as working agricultural land. These acres represent approximately 54% of our town's land base. Large areas of contiguous enrollment are located in the central and southwest portions of town. There are 43 parcels greater than 50 acres in size that were not enrolled in the UVA program (as of 2019), but which qualify.

### **Understanding and Mitigating Impacts of Invasive Species**

Preserving native ecosystems under assault from invasive plants and insects is a concern that requires community-wide planning and frequent monitoring. Invasive plant growth can lead to loss of native flora and fauna, altering the balance and diversity in the functioning landscape. Japanese Knotweed is one particularly aggressive invasive species becoming increasingly prevalent in Guilford. Colonies of Japanese Knotweed can quickly overtake stream banks, road edges, empty lots, construction sites, yards and foundations. Knotweed rapidly outcompetes native vegetation, contributes to soil erosion (especially along stream banks), and has been known to grow through and damage infrastructure such as bridge abutments. In addition to knotweed, the Guilford Conservation Commission has focused on the following invasive plant species prevalent in Guilford in its educational workshops and control efforts: Asiatic bittersweet, Japanese barberry, buckthorn, multiflora rose, and euonymus (winged burning bush). The Conservation Commission

meets annually with the Road Commissioner to manage plants of concern, including cow parsnip, a native plant whose sap can cause severe skin rashes.

Three non-native insects that currently threaten Vermont's forests are the emerald ash borer (EAB), the hemlock wooly adelgid, and the Asian longhorned beetle. The ash borer has been devastating to ash tree populations in other parts of the country and was detected within 10 miles of Guilford in 2021; thus, it is likely present in many parts of town. In the Fall of 2019 and Spring of 2020, the Conservation Commission, with the support of the Selectboard, applied for and received a grant from the Vermont Urban & Community Forestry Council to conduct an inventory of ash trees along Guilford roads and town properties. 2744 ash trees along 38 miles of roads were mapped and recorded for size, roadside type, condition, and priority for removal. Windham Regional Commission mapped these trees as a road atlas for the Guilford Road Crew. Removal of trees deemed as high priority (dead or dying) began in 2020.

The hemlock wooly adelgid may contribute to wide-scale mortality in hemlock trees. The adelgid has been identified in Guilford. Cold winters help to control it, but this will change as winters become warmer. The Asian longhorned beetle threatens sugar maples and other hardwoods. It has not yet been detected in Guilford.

Future efforts to control invasive species should involve preventing new introductions through common pathways such as firewood, nursery stock, roadside mowing, and indiscriminate movement of soil and gravel. While there are no official State regulations related to firewood used at private homes, the Vermont Department of Forests, Parks & Recreation recommends that firewood not be transported more than fifty miles. Other important actions needed to address non-native species include working with partners to develop tools for detecting, identifying, evaluating, and managing invasive pests, and responding rapidly if infestations are detected. Resources available through the websites of *Vermont Invasives* ([www.vtinvasives.org](http://www.vtinvasives.org)) and the *Invasive Plant Atlas of New England* ([www.eddmaps.org/ipane](http://www.eddmaps.org/ipane)) will continue to inform our understanding and management practices for invasives.

## **POLICIES: Forest and Wildlife Resources**

### **It is the Policy of the Town of Guilford to:**

1. Protect ecosystems and the habitat of threatened and endangered species.
2. Encourage the conservation and stewardship of existing contiguous habitat.
3. Ensure the conservation and stewardship of significant natural communities.
4. Protect the functional integrity of deer wintering areas, bear habitat, and other important wildlife habitats and habitat connectors.
5. Provide information to landowners about the importance of grasslands, early successional forest, and shrub habitat to certain species.
6. Undertake efforts to remove invasive species.

7. Update existing natural resources information and studies using the best available and most reliable sources of data.
8. Follow best road management practices of VT Local Roads and VTRANS to conserve wildlife corridor functions.
9. Protect and enhance forest blocks, habitat connectors, and wildlife road crossings.
10. Encourage landowners to use best management practices for forests and other wildlife habitat.
11. Support landowners working to reduce fragmentation of important forest block and habitat connectors through enrollment in the Current Use program, conservation easements, or other landowner efforts,
12. Encourage the siting, location and design of roads and utilities to minimize the fragmentation of forest blocks and habitat connectors.
13. Encourage the siting of new development so as to avoid fragmentation of forests, wildlife habitat, and significant natural areas. Development projects should minimize their ecological and visual impact on open spaces, which are attractive to visitors and residents alike.
14. Purchase or accept rights to properties that need protection and/or would be of benefit to the Town; encourage and support the purchase or lease of private property for public use; and support a mechanism, such as Guilford Preservation, Inc., whereby these transactions are possible.
15. Support forest products industries.
16. Encourage proper management of forest lands, through development of forest management plans and sound land stewardship practices.
17. Restrict the reclassification and upgrading of Class 4 roads and legal trails to public highways.

#### **ACTIONS: Forest and Wildlife Resources**

1. Complete work on Guilford's Natural Resources Inventory. (Conservation Commission)
2. Evaluate State maps of forest blocks, habitat connectors, and wildlife road crossings for viability and request the State to incorporate the local information collected in the Natural Resources Inventory. (Conservation Commission)
3. Analyze maps and data from the Natural Resources Inventory relating to the forests within Guilford and in the larger region, with the goals of preserving forest blocks, habitat connectors, and wildlife road crossings and encouraging "old growth" or perpetually unmanaged forests. (Conservation and Planning Commissions)
4. Provide public education programs to increase knowledge and appreciation for the forests, wildlife, and natural communities of Guilford. (Conservation Commission)
5. Provide townspeople with information about environmentally sound management of land and ways individuals can assist in protecting natural resources. (Conservation Commission)
6. Inform landowners about programs that preserve forests, including conservation easements, conservation deed restrictions, succession planning, and the Current Use Program. (Conservation Commission)



7. Engage and inform the public about invasive species and management techniques through workshops and the town website and newspaper. (Conservation Commission)
8. Work with the Road Commissioner to identify and remove invasives along Town roads and properties. (Conservation Commission)
9. Communicate with state, regional, and other organizations to increase citizen participation in training, mapping, and information sharing about natural resources. (Conservation Commission)

## **Agricultural Resources**

### **GOAL: Agricultural Resources**

1. Preserve agricultural lands for agricultural use and maintain a strong agricultural economy.

### **DISCUSSION: Agricultural Resources**

Guilford is fortunate to have several long-standing, dairy and beef-based family farms. Many farms also engage in maple sugaring, haying, and firewood production. Guilford also has a growing number of newer, diversified farms focusing on vegetable and cut flower crops and hemp production. The hard work and land stewardship of these farmers helps to preserve our town's agricultural heritage and contributes to our community's self-sufficiency and sustainability with respect to food products. Farmlands are particularly important to Guilford citizens, especially to the many residents who earn their livelihoods from these lands. Preserving the balance between Guilford's rural character and residential development is, and will continue to be, a challenge that must be addressed in order to maintain the viability of our agricultural lands and forests. Careful management of these lands is important to ensure that Guilford maintains its rural landscape, the health of its agricultural lands, and the economic viability of its natural resources.

Agricultural lands are important for the livelihoods that they support, the locally grown food and forage they provide, and the iconic Vermont landscape they create. Agricultural land tends to be under considerable development pressure due to the ease with which it can be converted. Because agricultural lands can be especially prone to soil erosion, fertility loss, soil health degradation, and encroachment by invasive species, farmers in Vermont are required to employ best practices as mandated by the state, and Guilford farmers work hard to exceed the bar set by these protocols.

### **POLICIES: Agricultural Resources**

It is the Policy of the Town of Guilford to:

1. Preserve agricultural land for agricultural activities.
2. Encourage opportunities in agriculture that use sustainable practices.
3. Encourage new farmers and the establishment of new farm operations.
4. Encourage proper management of agricultural lands, through development of and adherence to land management plans and sound land stewardship practices.

5. Encourage farming practices that benefit grassland birds.
6. Encourage the siting of new development so as to avoid loss of agricultural lands.

### **ACTIONS: Agricultural Resources**

1. Encourage owners of agricultural lands to participate in programs that preserve farmlands, including conservation easements, conservation deed restrictions, the Current Use Program, and best management practices, all of which encourage the preservation of open space and good land management use practices. (Conservation Commission)
2. Map arable land in Guilford and assess what/when development pressure is likely to reduce available land for agriculture. (Conservation and Planning Commissions)
3. Investigate land use regulations that require development to be located off or away from important agricultural lands. (Planning Commission)
4. Develop an understanding of the kinds of agricultural products that can be sustainably supported as climate change impacts our area. (Conservation and Planning Commissions)

## **Water Resources**

### **GOALS: Water Resources**

1. Protect surface and ground water quality and quantity for drinking and other domestic uses, for fish and wildlife habitat, and for recreational use.
2. Provide long-term stewardship of riparian habitat.

### **DISCUSSION: Water Resources**

(See also the Water Resources Map)

The word *riparian* means "of, or pertaining to, the bank of a river or lake." Riparian areas are ecosystems that extend up and down streams and along lakeshores. They include all land that is directly affected by surface water.

Vermont's network of lakes, ponds, rivers and streams, and their associated riparian areas provide vital habitat for a rich assemblage of aquatic species, including fish, amphibians, reptiles, invertebrates (e.g., insects, mussels, snails, worms, freshwater sponges), and plants. Naturally vegetated riparian areas provide many functions, including stabilizing shorelines, storage of floodwaters, filtration of sediments and nutrients, shading of adjacent surface waters to help moderate water temperatures, and direct contribution of organic matter to the surface water as food and habitat structure. Riparian areas are also essential habitat for many species of wildlife, including mink, otter, beaver, kingfisher, spotted sandpiper, and wood turtle. The shorelines and riparian areas of rivers and lakes support floodplain forests, several other rare and uncommon natural communities, and many species of rare plants and animals.

The linear network of riparian areas also provides a crucial element of landscape connectivity. Many wildlife species use riparian corridors for travel to find suitable habitat, but certain species are almost entirely restricted to riparian areas, including mink, otter, beaver, and wood turtle.

Guilford's surface waters include the Green River, Broad Brook, and Fall River and their tributaries; two major ponds, Weatherhead Hollow Pond and Sweet Pond, both man-made; and many smaller ponds, wetlands, and vernal pools. These water bodies are ecologically important for storing and transporting water in their watersheds and moderating the impacts of flooding. They provide important habitat for aquatic organisms and wildlife, including food, shelter, and passageways. Guilford's water bodies also provide recreational, historical and scenic attractions for residents. For all of these reasons, protecting surface water quality is very important to the future of the Town. Guilford residents and businesses rely primarily on individual groundwater supplies for drinking water; therefore, protecting groundwater quality is critical to the future well being of the Town and its residents. Guilford's water resources can be preserved and/or improved through implementation of low impact development and green stormwater infrastructure.

Activities that affect lakes, ponds, rivers, streams, and wetlands may require one or more permits from the Agency of Natural Resources (ANR) and other state and federal agencies. Fisheries biologists from Vermont Fish & Wildlife provide input into several State permits, including stream alteration and water quality certifications, in order to protect water quality. An overview of these permits can be found at ANR's Watershed Management Division website (<https://dec.vermont.gov/watershed/permits>).

### **Water Quality**

The Agency of Natural Resources' Watershed Management Division assesses the health of Vermont's surface waters using biological, chemical and physical criteria. Guilford's three rivers and their tributaries are all in good to excellent condition. Weatherhead Hollow Pond has been rated "Good" in terms of water quality with a "Minimally disturbed" watershed.

Surface waters in Vermont are rated in four classes: A(1), A(2), B(1), and B(2). Class B(2) is the base (or default) classification for all surface waters in Vermont, including those in Guilford. Class B2 waters are suitable for swimming and other contact recreation, irrigation and agricultural uses, fishing, and aquatic biota and habitat.

ANR's 2019 *Deerfield River & Lower Connecticut River Tactical Basin Plan* identifies three water bodies in Guilford as being of higher quality than Class B2 and recommends the following reclassifications:

- The Green River is being recommended for A(1) reclassification due to its excellent condition and significant ecological value. The Green River also serves as public water supply for the Town of Greenfield and is designated as Class A in Massachusetts from the state line to the water supply intake 6.4 miles downstream.

- Broad Brook and the Fall River are being recommended for B(1) reclassification for meeting or exceeding the criteria for Aquatic Biota & Fishery, These rivers and their tributaries should be protected to the highest level possible.

### **Relation of Forests to Water Quality**

Forests are the best form of land use for sustaining water quality and quantity. Studies clearly show that the amount of forestland within a watershed is an indicator of water quality and healthy aquatic ecosystems. Forests mitigate the impacts of flooding, replenish groundwater aquifers, and provide recreation and critical fish and wildlife habitat, as well as a variety of wood products.

Guilford is located in Basin 12, one of 15 major drainage basin planning units that cover the State of Vermont. Basin 12 is the second most forested, and the least developed Basin in Vermont. Forested land covers 82% of the Basin. This affords significant protection to the Basin's waters.

Forestry operations can directly impact water quality by affecting how water flows through an area. In particular, constructing roads, trails, and log landings can reduce soil permeability, increase soil erosion, and divert and concentrate water flow, leading to a channeling effect. Concentrated water flow can also erode banks and put undue pressure on bridges and culverts.

### **Rivers and Streams**

Undisturbed, naturally vegetated buffer strips along rivers and streams are extremely important in maintaining cool water temperatures and stable stream banks, filtering pollutants, and providing food and shelter for fish and other aquatic organisms. They also serve as important wildlife connectors between forest blocks.

Rivers and their tributaries also provide a connected system that allows fish to seek the best available habitat for reproductive needs, food resources, thermal refuge and cover. Aquatic connectivity also allows for the recolonization of upstream habitats after catastrophic events, such as floods or toxic discharges. Furthermore, free movement within a river system helps to maintain genetic diversity of aquatic populations. During periods of stressful environmental conditions, fish will often migrate to cold-water refuges such as the mouths of tributary streams or to areas of groundwater inflow during warm periods. Maintaining clear, cold, and well-oxygenated water is an important habitat requirement for brook trout.

### **Lakes and Ponds**

Effective July 1, 2014, the Vermont Legislature passed the Shoreland Protection Act, which regulates shoreland development within 250 feet of a lake's mean water level for all lakes greater than 10 acres in size. The intent of the Act is to prevent degradation of water quality in lakes, preserve habitat and natural stability of shorelines, and maintain the economic

benefits of lakes and their shorelands. The Act seeks to balance good shoreland management and shoreland development. In Guilford, this legislation applies to Weatherhead Hollow Pond. According to WRC's 2013 *Undeveloped Waters of Southeastern Vermont*, Weatherhead Hollow Pond is 39% undeveloped and 72% conserved. Sweet Pond is listed as 69% undeveloped and 100% conserved in the same study (available at [www.windhamregionalcommission.org/publications](http://www.windhamregionalcommission.org/publications)).

### **Fisheries and Aquatic Organisms Habitat**

The 2019 *Tactical Basin Plan* draft reports 28 species of fish occurring in suitable habitats within Basin 12, which includes surface waters in Guilford. Of this number nearly half are classified as sport fish, providing anglers with recreational fishing opportunities. A Fisheries Assessment, compiled in 2019 by Vermont Fish & Wildlife and included in the 2019 *Tactical Basin Plan*, lists the following species in Guilford's major surface waters:

- Weatherhead Hollow Pond: brown bullhead, blacknose dace, brook trout, largemouth bass, pumpkinseed, smallmouth bass, yellow perch, and American eel. The American eel, observed here in 2013, is listed as a Species of Greatest Conservation Need (SGCN) in the Vermont Natural Heritage Inventory.
- Green River: 17 fish species, including native brook and brown trout and stock rainbow trout
- Broad Brook: 11 fish species, including native brook and brown trout and stock rainbow trout
- Fall River: 11 fish species, including native brook and brown trout

### **Vernal Pools**

Vernal pools are ephemeral bodies of water that generally have no outlet and dry up in the summer months. They are important habitats for aquatic animals that do not exist in larger bodies of water. Many amphibians, including salamanders, such as the yellow-spotted, blue-spotted, Jefferson, and eastern newt, breed successfully in vernal pools as no fish are present. Invertebrates, including fairy shrimp and insects, fingernail clams, and wet tolerant plants, are also found in or near vernal pools. Many of Guilford's vernal pools have been identified and mapped, but the continuing Natural Resources Inventory will add to our understanding of where these vital resources are located.

### **Wetlands**

Wetlands include vegetated, shallow-water margins of lakes and ponds, seasonally flooded borders of rivers and streams, other settings across the landscape, including basins, hillside seeps, and wet flats. Wetlands serve a range of functions that are important to plant and animal species, as well as the health, safety, and welfare of people. They provide fish and wildlife habitat, flood and erosion protection, nutrient and pollution filtration, groundwater recharge, aesthetic diversity, and sites for educational and recreational activities. With a warming climate, wetlands play an increasingly important role by holding water on the landscape during times of drought and by absorbing and slowing the flow of water during floods.

Beavers were the great creators of wetlands before they were largely exterminated during the fur trade. Today, beavers have returned, but their activities are limited to sites where ponds and wetlands do not conflict with human land uses. In many cases, however, these conflicts can be remedied and the beavers can remain on site to do their important work. Where they dam culverts, a fence and pipe system can be installed that permits water to flow through the culvert and that regulates the size of the wetland the beavers can create. Such measures can add to wetland acreage while reducing the road budget. Similar devices can be installed in existing dams to limit the extent of flooding. Important trees can be protected with simple fences.

Similar to our vernal pools, many of Guilford's wetlands have been identified and mapped, but completing the Natural Resources Inventory will add to our understanding of where these vital resources are located. At least one wetland in Guilford, a rich fen, has been identified as a rare natural community.

### **Groundwater**

Groundwater is water that has infiltrated the soil through sand, gravel, or rock. Except for the Village of Algiers, which is served by a municipal wastewater collection system, as well as a municipal water supply system, groundwater is the source of drinking water for most of Guilford's homes. Vermont's Act 199, passed in 2008, declares groundwater to be a public trust resource in order to protect the water we depend on. The Agency of Natural Resources is entrusted with the stewardship of our groundwater, but private citizens and local officials also have roles to play to manage local groundwater resources.

Groundwater is a vital resource in Guilford, valuable for maintaining potable water supplies for future generations and for its relationship to surface waters, including the ecological functions of wetlands, streams, and rivers. Groundwater is also a finite resource that must be protected from depletion and contamination. Act 199 requires a permit for commercial withdrawals of groundwater greater than 57,600 gallons per day, but also gives Vermont municipalities the authority to control where or to what extent large groundwater withdrawals can occur through their town plans (including withdrawals for bottling water or inter-basin transfer). Any large groundwater withdrawals should be limited if they adversely affect surface waters fed by groundwater or drinking water supplies for Guilford residents.

### **River Corridors and Flood Resiliency**

In extreme weather, rivers and streams are unpredictable and may destroy structures, roads, and streambeds. Tropical Storm (TS) Irene in August 2011, tracked directly through the Green River watershed, causing major damage in Vermont and Massachusetts. Over seven inches of rain fell in the headwaters of the Green River watershed. Roads and bridges were especially hard hit by the flooding so that damage to the transportation network slowed recovery efforts and severed access to dozens of homes. As a result of the impacts

from this flood and the increasing severity of rainfall and flood events over the last decade, flooding and erosion hazards are a top concern for residents within the Green River watershed. In 2012 the Windham Regional Commission (WRC) and the Vermont Department of Environmental Conservation (DEC) targeted the Green River in southeastern Vermont for assessment of fluvial geomorphic conditions. Fitzgerald Environmental Associates was hired to do a Stream Geomorphic Assessment (SGA) to help the towns of Guilford and Halifax better understand existing flood vulnerabilities and plan for future improvements with flood risks in mind. 17.2 river miles in Halifax and Guilford were assessed in 2013. 8.6 river miles were then selected for a field-based study in 2014.

The *Green River Corridor Plan* (on the Town website) was then developed. This plan provides critical information for emergency planning, road and bridge management, and conservation of land and rivers, as well as an assessment of current river conditions. It identifies 23 projects to promote the restoration or protection of channel stability and aquatic habitat. 13 of these projects are in Guilford, four of which have been identified as priority projects. Three of these priority projects have been completed: the restoration and conservation of a house site on Hinesburg Road destroyed in TS Irene, conservation of an important floodplain south of Green River Village, and removal of a berm north of the Green River Village.

#### **POLICIES: Water Resources**

It is the Policy of the Town of Guilford to:

1. Maintain or enhance water quality by protecting our rivers, streams, ponds, wetlands and vernal pools from contamination, including runoff from roads, farms and homes, septic systems, junkyards, and other pollutants and toxins.
2. Encourage the stewardship and preservation of the ecological and aesthetic value of our streams, ponds and wetlands.
3. Retain wetland areas in their natural state for wildlife habitat protection, as retention areas of surface runoff, and for habitat and scenic values.
4. Limit development within the surface waters or buffer zones of the following areas to protect our waters and watersheds:
  - a. Headwaters of watersheds characterized by steep slopes and shallow soils.
  - b. Drainage areas of pristine or upland streams (with special attention to preservation of flora and fauna on stream banks),
  - c. Floodplains and river corridors
  - d. Wetlands
  - e. Vernal pools
5. Support best management practices on farms and working forest and agricultural lands to prevent stream erosion.
6. Comply with state requirements for activities that alter the natural form and function of a surface water, such as filling, dredging, damming, and channelization.
7. Support the State's setback requirements for ponds and lakes larger than ten acres.

8. Protect Guilford's groundwater from contamination from blasting, injections and other adverse impacts associated with the commercial use and withdrawal of groundwater resources.
9. Encourage the integration of low-impact development principles and green stormwater infrastructure practices for new development projects and reconstruction of existing development in order to protect water quality and mitigate flooding.
10. Continue to encourage flood hazard area regulations to protect lands within identified floodplains and flood storage and fluvial erosion hazard areas in Guilford's watersheds.
11. Encourage landowners to maintain natural vegetation buffers to protect shoreline and/or riparian areas.
12. Support siting roads away from areas that are periodically flooded.
13. Require that all facilities which store, process or use hazardous materials, or generate or treat hazardous wastes in their operations be sited in compliance with state and local laws, and use best management practices for the protection of groundwater, surface waters and air quality.
14. Work with residents and businesses to encourage individual water resource protection measures such as water conservation, proper septic system maintenance and proper waste disposal practices.
15. Ensure safe wastewater disposal. The Town of Guilford will permit development to occur where soil conditions and topography will not cause erosion or contamination of ground or surface water; will encourage the State's updating and enforcement of health regulations (Wastewater and Potable Water Supply Rule) to ensure adequate sewage disposal encompassing traditional and proven new technologies; and will report violations of State septic regulations when they occur.

#### **ACTIONS: Water Resources**

1. Develop an informed understanding of Guilford's water resources using data from the Agency of Natural Resources, Vermont Department of Fish & Wildlife, Federal Emergency Management Agency (FEMA) and Windham Regional Commission to ensure the health and safety of our environment and our residents, minimize economic losses during floods, protect ground and surface water quality, facilitate emergency services, and protect people and property in our river corridors. (Selectboard, Conservation and Planning Commissions)
2. Use the Natural Resources Inventory to assess the importance of Guilford's water resources to associated wildlife and thus assist in protection of these resources. (Conservation Commission)
3. Encourage updating Guilford's Flood Hazard Area Bylaws to include the Statewide River Corridor Map and the river corridor protection guidelines developed by the Agency of Natural Resources in Flood Hazard Area and River Corridor Protection Procedures. (Selectboard, Conservation and Planning Commissions)
4. Work with landowners and Town officials to build support, secure funding and build partnerships to implement the restoration and protection projects outlined in the *Green River Corridor Plan*. (Selectboard, Conservation and Planning Commissions, WRC)



5. Support the restoration and protection projects outlined in the 2019 *Tactical Basin Plan*. (Selectboard, Conservation and Planning Commissions)
6. Support the reclassification of the Green River to A1 status and Broad Brook and Fall River to B1 status. (Selectboard, Conservation and Planning Commissions)
7. Monitor invasive plant growth along waterways and develop plans to control them. (Conservation Commission)
8. Investigate the feasibility of undertaking groundwater mapping in Guilford. (Planning Commission)
9. The Selectboard and Planning Commission to develop and adopt a policy for large-scale or commercial groundwater extraction. (Selectboard and Planning Commissions)
10. Coordinate with the State to monitor groundwater before and after blasting for mining, road, or home building, and when multiple wells are being drilled in close proximity. (Selectboard and Town Health Officer)
11. Investigate best management practices for beaver/culvert conflict sites to promote the development of new wetland sites and eliminate the need for the road crew to manage beavers. (Selectboard and Conservation Commission)
12. Establish a reliable wetlands inventory by verifying the Vermont Wetlands Inventory map. (Conservation Commission)
13. Continue to inventory vernal pools and evaluate the biological value of the breeding pools and adjacent terrestrial habitat to rank the pools and create a conservation plan based on the values. (Conservation Commission)

## **Air Quality**

### **GOAL: Air Quality**

1. Protect the public and the environment from the effects of adverse air quality.

### **DISCUSSION: Climate and Air Resources**

Guilford's air quality is generally good because of low population density and lack of heavy traffic and industry. Local threats to air quality include emissions from the combustion of fossil fuels, wood, vehicular exhaust, poor waste management, and improper disposal of toxic substances. Pollutants from distant sources, including acid in rain, mist, and snow, also affect air quality. Two primary sources of local air pollution include carbon-based combustion heating systems (particularly woodstoves and outdoor furnaces) and vehicles. Newer wood stoves are now mandated by the EPA to contain pollution control equipment that significantly reduces particulate emissions. Replacing older wood stoves and furnaces will contribute to better air quality. Vehicles are a second local source of air pollution. Strategies such as reducing driving miles and idling, carpooling/ride sharing, and using alternative-fuel vehicles all would reduce automobile pollution. Increasing local employment opportunities and encouraging compact settlement would also reduce the need to commute.

### **POLICIES: Climate and Air Resources**

It is the Policy of the Town of Guilford to:

1. Maintain Guilford's good air quality by requiring that all activities meet state and federal air quality standards.
2. Discourage developments and activities that degrade air quality in any part of the Town.
3. Encourage energy efficiency upgrades and the use of the cleanest burning technologies for all fossil fuel and wood combustion systems.

**ACTION: Climate and Air Resources**

1. Distribute information and resources to residents about their energy consumption, their carbon footprint, and ways to reduce negative impact through energy conservation, energy efficiency and new technologies. (Selectboard, Planning and Conservation Commissions, and Energy Committee)

**Earth and Mineral Resources**

**GOAL: Earth and Mineral Resources**

1. Balance the benefits and uses of sand, gravel and other mineral and earth resources against the impacts associated with the extraction, processing and transportation of such resources.

**DISCUSSION: Earth and Mineral Resources**

Sand, gravel, slate, and other products of rock-quarries have all been extracted in Guilford at different times. Sand and gravel are required for year-round maintenance of our roads. Mining and quarrying can threaten environmental integrity so the benefits of extraction need to be balanced with attention to potential harm. Deposits of natural resources do not recognize town and property boundaries so management of some resources may require communication and coordination among several landowners, towns, or the region as a whole. Although there are identifiable sand, gravel, rock, and slate deposits in Guilford, there is currently only limited commercial extraction of these and other earth resources within the Town's boundaries. Excavation and extraction of these resources should be carried out in a way that doesn't unduly impact neighbors with loud noise, dust, water quality impairment, unusual hours of operation, or heavy truck and equipment traffic on Town roads. Mineral resource operations should be mindful of the need to leave adequate supplies of earth resources for future generations.

**POLICIES: Earth and Mineral Resources**

It is the Town's policy to:

1. Ensure that extraction of earth and mineral resources does not threaten our natural resources and that there is proper preservation and restoration of the ecological, social, and aesthetic qualities of the area.
2. Require that land with high potential for the extraction of earth and mineral resources not be developed in a manner that will prevent future extraction or processing of the resource.

3. Ensure that extraction operations do not have an adverse social impact resulting in hardship to neighboring property owners involving noise, dust, vibration, harm to groundwater and wells, or unusual hours of operation, nor shall it create an undue burden on municipal services or facilities.
4. Require that those who propose the extraction of earth and mineral resources assure site rehabilitation suitable for appropriate future uses and compatible with the surrounding countryside.
5. Require that the extraction of earth and mineral resources shall not interfere with, or have undue negative impact on, surface waters or groundwater, air quality (dust), significant natural areas, including important forest and agricultural lands, or special community resources (historic sites, recreation and scenic areas).
6. Prohibit mining and mineral extractions in designated forest blocks and habitat connectors.
7. Require that any operator of an earth resources extraction operation meet strict health, safety and environmental performance standards in conformance with Act 250 criteria or other relevant regulations.
8. Require that heavy trucking and heavy equipment traffic to and from extraction sites within and outside of Town boundaries obey weight and load limits on all Town bridges and roads AND that drivers obey speed limits.
9. Require that the Town use local sources of sand and gravel for Town construction projects whenever to do so is cost effective and consistent with the Earth and Mineral Resources policies set forth in this Town Plan.

**ACTIONS: Earth and Mineral Resources**

1. Update our knowledge of Guilford's mineral resources by creating and maintaining an inventory using data obtained from the Agency of Natural Resources and other informational sources to identify, locate, update, and map deposits of important earth and mineral resources. (Planning and Conservation Commissions)
2. Determine permissible noise levels and adopt a Noise Ordinance. (Selectboard and Planning Commission)
3. Determine permissible traffic on Town roads serving any mineral extraction. (Selectboard)

# Energy

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

The vision of the energy plan is to chart a path forward for more resilient, sustainable, and affordable energy generation and use in the Town of Guilford.

### GOALS

The energy plan shares the goals of the 2016 Vermont Comprehensive Energy Plan: *Vermont can meet its energy service needs in a manner that is adequate, reliable, secure and sustainable; assuring affordability and encouraging the state's economic vitality; using energy resources efficiently and managing demands cost effectively; and employing environmentally sound practices*<sup>1</sup>. For Guilford, these statements can be put into action through the following goals:

1. It is a goal of the Town to reduce resident and commercial expenditures for thermal energy and electricity through investment in energy efficiency measures, renewable resources, sharing lessons learned from these exercises with town residents, and encouraging residents to take similar actions at their properties. It is a goal of the Town to pursue energy-efficient and energy conservation practices in all town-owned buildings and installations and, as feasible, the use of renewable energy.
2. It is a goal of the Town to continue to work on the goals set forward in the transportation section of the Town Plan to reduce transportation-based energy use and emissions.
3. It is a goal of the Town to proactively plan for favorable siting locations for energy production and storage that align with development patterns, and current power transmission infrastructure to include feedback from both residents and experts, in any community-scale installation of power generation equipment.
4. It is a goal of the Town to share lessons learned with neighboring communities to work collaboratively to improve energy use and reduce emissions associated with energy use and generation.
5. It is a goal of the Town to produce a comprehensive energy plan to meet Act 174 energy planning standards by 2025.

### DISCUSSION

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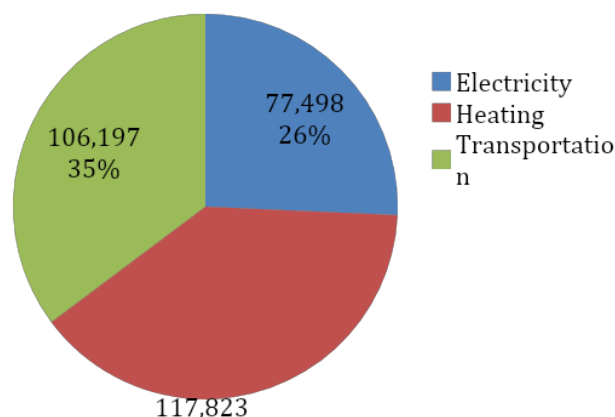
<sup>1</sup> 2016 Vermont Comprehensive Energy Plan, Title 30, Section 202a;  
[https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP\\_Final.pdf](https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP_Final.pdf)

Energy is essential to our current way of life and is considered a resource similar to clean water and clear air. Its proper use can improve our living conditions, but its misuse can destroy our environment and severely affect human health. With the climate crisis, reducing energy-based greenhouse gas emissions is critical. The Town can both reduce overall energy use and promote cleaner, more sustainable forms of energy production.

In 2018, the Planning Commission recommended the formation of a Guilford Energy Committee. Since that time, the Energy Committee has provided residents and the Town with information at various events and venues including hosting a booth at the Guilford Fair, putting out a home heating survey for Guilford residents, providing information at community events, and hosting a film night and discussion at the Broad Brook Community Center to discuss climate change and what cities and towns can do. Specific information provided by the Energy Committee includes resources on increasing energy efficiency, renewable energy options, rebates for efficient wood stoves, electric car options, and how to reduce greenhouse gasses through energy changes.

**Energy Use**

**Chart 1: Annual Energy Consumption (2015) (in million Btu)**



Guilford consumes energy through electricity, heating and transportation with heating accounting for the largest share of overall energy use<sup>2</sup> (see Chart 1); accounting for \$7,764,605 in costs (see Chart 2)—note that due to pricing, costs are highest for electricity even though this is the smallest overall share of energy use.

**Chart 2: Comparative Totals: Energy Expenditures in Guilford (2015)**

\$3,259,224	Electricity
\$2,629,346	Heating
\$1,876,034	Transportation
\$7,764,605	Total estimated annual energy cost in town.

<sup>2</sup> Data from Windham Regional Commission Town Energy Data Act 174 Municipal Planning; Guilford Dataset; [https://drive.google.com/drive/folders/0B2c\\_6utSGstLSjBfOTdhYjlnOEK](https://drive.google.com/drive/folders/0B2c_6utSGstLSjBfOTdhYjlnOEK)

Both town-level and county-level energy plans are building blocks to help implement the Vermont Comprehensive Energy Plan (CEP) which sets a goal that 90% of all energy used in Vermont to be sourced by renewable energy by 2050<sup>3</sup>. In 2016, Vermont passed Act 174<sup>4</sup> which encourages comprehensive energy planning on the regional and town levels throughout Vermont. Act 174 of 2016 establishes a new set of municipal and regional energy planning standards, which if met allow those plans to carry greater weight in the Section 248 siting process for energy generation. Meeting the standards is entirely voluntary; if a town does not wish to update their plan, the town will continue to receive due consideration in the Section 248 process. Because of Act 174, the Regional Planning Commissions (RPCs) throughout the state have been tasked and received funding to generate regional energy plans. The Windham Regional Commission developed a regional energy plan in 2018 and has assisted towns with energy mapping and energy use data.

Although the Town may not be ready to meet all Act 174 energy planning standards at this time, the Planning Commission will continue working with the Windham Regional Commission to move in the direction of meeting the energy planning standards by 2025. In terms of setting goals, much of the focus of the energy planning standards is in the following four areas which are discussed in the context of the Town below:

1. electrical use by sector (i.e., residential, commercial, government);
2. heating fuel use by sector;
3. transportation trends (commuter trends, vehicle miles traveled, transportation options); and
4. energy supplies and costs (including transportation fuels and local renewable energy generation)

### **Electrical Use**

In 2015, Vermont got about 16% of total energy from renewable sources; including 45% of electricity from renewable sources<sup>5</sup>. The Town of Guilford's utility-based electricity is provided by the Green Mountain Power (GMP) electric utility. In 2014, residents and businesses in Guilford used an estimated 22,712,363 kWh annually<sup>6</sup> costing \$3,259,224.

Green Mountain Power reports (2016) that the electricity mix supplied to consumers is produced from "market purchases" (to include oil, wood, gas generation in addition to some renewables), large hydro, small hydro, and nuclear power. In addition to the GMP utility,

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<sup>3</sup> 2016 Vermont Comprehensive Energy Plan;

[https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP\\_Final.pdf](https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP_Final.pdf)

<sup>4</sup>

<http://legislature.vermont.gov/assets/Documents/2016/Docs/ACTS/ACT174/ACT174%20As%20Enacted.pdf>

<sup>5</sup> 2016 Vermont Comprehensive Energy Plan, page 9;

[https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP\\_Final.pdf](https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP_Final.pdf)

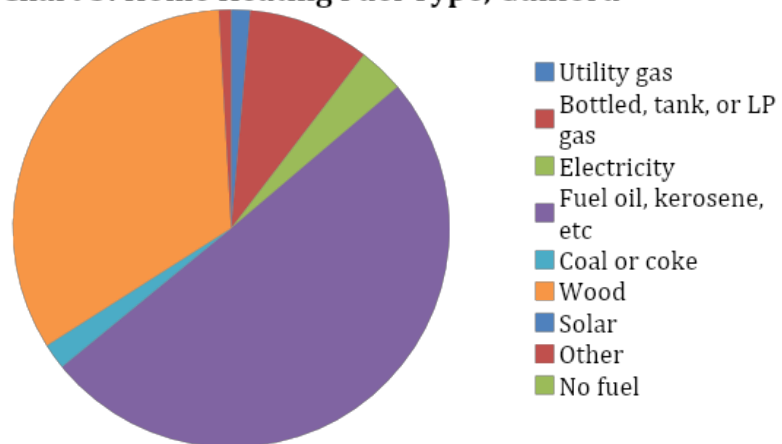
<sup>6</sup> Data from Windham Regional Commission Town Energy Data Act 174 Municipal Planning; Guilford Dataset; [https://drive.google.com/drive/folders/0B2c\\_6utSGstLSjBfOTdhYjlnOEK](https://drive.google.com/drive/folders/0B2c_6utSGstLSjBfOTdhYjlnOEK)

some residents have on- and off-grid electric power systems; mainly solar PV and small wind systems.

### Heating Fuel Use

As shown in Chart 3<sup>7</sup>, most Town residents use fuel oil, wood, and propane for heating; with a portion of residents also utilizing electricity, coal, utility gas, and other sources of heat for their heating needs. There are weatherization and incentive programs that can be shared with residents to provide opportunities to decrease use of heating fuels.

**Chart 3: Home Heating Fuel Type, Guilford**



### Transportation Trends

As discussed in the Transportation portion of the Town Plan, the goals of the Town regarding transportation include:

1. Preserve the scenic wealth of our landscape for future generations.
2. Increase the safety of our roads for pedestrians and bicyclists according to Act 34.
3. Increase the availability and convenience of public transportation.
4. Establish a bike trail network for residents, visitors, and tourists.
5. Construct new access points (driveways and private roads) to Town-maintained roads in a safe and environmentally-responsible manner.

As highlighted, it is a goal of the Town to increase opportunities for public transportation and active transportation (bicycles and walking). A reduction of private vehicle traffic will improve the energy efficiency of the Town and decrease energy and emissions expended for transportation. However, with the dispersed nature of the Town, it may be most feasible to target higher population centers such as the Village of Algiers and Guilford Center for these initiatives. Algiers Village is a relatively compact area with residences, churches, a general store, services, and businesses. A sidewalk extends from Coolidge Highway (Route 5) along a short distance of Guilford Center Road. Additional sidewalks, pathways, and traffic calming measures would improve safety and access for pedestrians and bicyclists who often feel threatened. There is regular daily bus service between Brattleboro and the Guilford Country Store.

<sup>7</sup> Data from Windham Regional Commission Town Energy Data Act 174 Municipal Planning; Guilford Dataset; [https://drive.google.com/drive/folders/0B2c\\_6utSGstLSjBfOTdhYjlnOEK](https://drive.google.com/drive/folders/0B2c_6utSGstLSjBfOTdhYjlnOEK)

## Energy Supplies and Costs

Vermont has the opportunity to capitalize on its leadership in clean energy—the State is already home to the largest number of clean energy jobs, as a fraction of all jobs, of any surveyed state: 4.8% of Vermont employees (16,231 people) participate in the clean-energy economy<sup>8</sup>. Additionally, conserving energy improves the regional economy and residents' quality of life. For most communities today, 70 – 80% of money spent on energy leaves town, going to utilities, oil, companies, and state and federal taxes. By investing in energy efficiency or local renewable energy projects, a larger portion of that money will remain in the community, stimulating the local economy. As an example, approximately \$0.80 of every dollar spent on energy efficiency remains in Vermont, while approximately \$0.80 of every dollar spent to purchase energy leaves the state<sup>9</sup>.

Many towns in the area are investigating or investing in solar PV or wind power to reduce, over time, their utility expenditures. There is a great resource in working with neighboring communities to learn from their experiences and share the experiences of Guilford to collaboratively meet the overall energy goals of the Town, Windham County, and State of Vermont.

There have been several mid-scale PV installations and rooftop PV installations completed in the Town over the past few years. Due to the existence of three phase power lines in the Town which make community-scale PV installations more feasible, it is likely that the Town will continue to see PV developers approach landowners and the Town with PV development proposals. While these installations bring economics to the Town and contribute to the State's RE goals, it is important for the Town to work with developers to site these installations in best resource areas identified by the Town, and collaborating with neighboring stakeholders, to keep the rural, agricultural landscape identified as desirable by the Town. The Energy Committee is compiling a map of all current solar energy sites in Guilford to track installations and solar development. This will be shared with all residents.

The Windham Regional Commission has provided energy data and maps of the Town which the Town can use to designate optimal locations for renewable energy development as well as those locations where the Town would discourage renewable energy development.

## ACTIONS

The intent of the following actions is to reduce overall energy demand to promote cost savings, healthier communities and a cleaner environment. Based on the prior discussion, the Town shall:

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<sup>8</sup> 2016 Vermont Comprehensive Energy Plan, page 5;

[https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP\\_Final.pdf](https://outside.vermont.gov/sov/webservices/Shared%20Documents/2016CEP_Final.pdf)

<sup>9</sup> Energy Planning & Implementation Guidebook for Vermont Communities, 2011



1. Continue improvements in demand-side thermal (heating) and electric efficiency and conservation. This can be accomplished by initiating a full inventory of electric and heat use in the Town (residential, commercial, government) to determine best opportunities for cost and energy savings. The Town shall take advantage of resources such as EPA's ENERGY STAR Portfolio Manager to benchmark energy use and track use over time. The Energy Committee will continue to encourage residents to use energy efficiency technologies and practices and will educate residents on specific incentives from utilities, producers, the State and the Federal Government to implement said technologies. The Energy Committee will provide education on energy audits, current best practices for energy conservation and home heating; provide links to potential funding or reimbursement/cost participation resources; and promote weatherization programs.
2. Encourage fuel switching away from combustion technologies to more efficient electric-powered technologies for transportation. The Planning Commission, working with the Energy Committee, shall continue to work on the goals set forward in the transportation section of the Town Plan to reduce transportation-based emissions.
3. Increase opportunities for sustainable electricity generation. The Planning Commission recommends that the Town support the development and use of residential and community-scale renewable energy production, mainly through PV installations. To ensure that all future community-scale installations are sited and maintained to reflect the rural, agricultural feel of the Town, the Energy Committee has compiled a map of all current non-residential solar PV installations in Guilford. This mapping project will engage in energy resource mapping exercises that will identify preferred locations (such as densely populated areas, rooftops, and brownfields) for future energy generation, transmission, and storage projects. This information will be based on resource maps supplied by the Windham Regional Commission. Those locations in the Town that are deemed special ecological zones, floodplains, high value agricultural land, etc. will ideally not be developed with energy installations.
4. Continue to work with neighboring communities to share lessons learned on energy planning and utilize local experience to improve energy planning. This is achieved by attending regional workshops and meetings to coordinate with neighboring communities for a better understanding of what has worked most successfully for those locations.
5. Continue to liaise with the Windham Regional Commission to ensure that the Town Plan incorporates elements of the Windham Regional Energy Plan including energy data and mapping resources. The Planning Commission shall continue working with the Windham Regional Commission to move in the direction of meeting the Act 174 energy planning standards by 2025.

# Education

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

*Guilford provides a myriad of educational opportunities, both traditional and alternative, that build skills and strengthen learners' connection with and contribution to their immediate community and beyond. The Guilford Central School is a public elementary school educating preK-6 graders.*

The Guilford Central School's Mission Statement is:

"Guilford Central School's vision is to create a school that holds high academic standards for all students to become independent, critical thinkers, as well as responsible members of their community. We work to build a learning environment in which each child is known, valued and celebrated. We are dedicated to our children, their families and the Guilford community."

Guilford Central School is a Positive Behavioral Intervention Supports (PBIS) school. The PBIS structure provides a positive learning environment where children and community members are safe, kind, respectful, and responsible. They teach school wide-expectations, provide consistent response to behaviors, and use data to inform our decisions regarding behavior support. They devote time to Morning Meetings, All School Meetings, and Sings, Mixed Age Groups, and to bi-weekly lessons in social-emotional learning using a research-based curriculum, the Second Step program.

### GOALS and POLICIES

1. **It is the Town policy to** support Guilford Central School efforts to continue place-based learning initiatives.
2. Ensure that Guilford's K-6 students are educated in Guilford.
3. **It is the Town policy to** encourage services that are currently lacking in Guilford, i.e., early education and afterschool programming.
4. Explore options for more adult learning opportunities and create a network for Guilford residents to share their diverse skill sets with fellow residents.
5. **It is the Town policy to** educate students about the importance of our environment and help provide learning experiences related to responsible environmental stewardship.

### DISCUSSION

The SWIFT initiative (referenced in the Education section of the 2015-2020 Guilford Town Plan) was ended for Vermont schools in 2015. Our state's small population and financial constraints did not support continued involvement. In 2019, the Act 46 school merger state law from 2015 was implemented through the consolidation of the former Guilford Town School District into the new unified Windham Southeast School District. The merger

eliminated the local school board, replacing its function by representation on the WSSD School Board. In 2020, voters approved the creation of Leadership Councils in each school, composed of teachers, parents, community members if, administrators, board members, and if possible, students. Guilford's Leadership Council has been consistently involved in the operational decision making process and the successful outcome of the educational experience at the school.

The challenges of the Covid19 global pandemic continue to reverberate in the learning community. In response the school district is committed to meeting the social/emotional, behavioral, and academic needs of its learners. A district-wide Recovery Plan has been developed to guide the work of the school system.

In the 2021-2022 academic year, GCS reported a pre K-6 population of 126 students to the State. The 7th and 8th graders moved to BAMS in 2014 when the Town of Guilford voted to provide them that opportunity to move into a larger school, resulting in a smaller population. In addition to these students, many of Guilford's youth attend private day and boarding schools and some are homeschooled. [The VT Agency of Education's annual snapshot of school quality](#) ranks Guilford Central School as "exceeding" in the categories of academic proficiency and safe/healthy schools, and meeting the standard in the other categories measured, high quality staffing and investment priorities. The fifth category included in the annual snapshot, personalization is not currently measured

Guilford Central School has continued to institute strong place-based learning initiatives that connect students with their community and their town's history. This type of learning creates an intimate sense of belonging and familiarity with one's immediate environment.

The Guilford Field to Forest and Farm to School programs remain vital and vibrant. Students regularly spend time working in our school gardens, as well as, cooking composting, and visiting local farms. From monthly taste tests of healthy, locally sourced foods that are prepared and served by students in every grade, to working on area farms to plant and harvest produce that are served in our cafeteria, students are connected with Guilford's farming heritage. The pre-K program is nature-based, with children spending each day outside. K-5 students spend time each week in our outdoor learning space adjacent to the building. The grade 6 program includes an afternoon each week in a learning space in the town's Andrew Weeks Forest. For example, students spending time in the Andrew Weeks Forest as part of their curriculum have the chance to observe native plant species and wildlife, and explore town history. Educational experiences are more formative and more likely to naturally lead to further education when they are rooted in tangible and sensory fields as compared to the abstract.

The opportunities for education in Guilford are myriad and should be pursued with fervor to continue to grow a resilient and well-informed citizenry. Learning is a lifelong endeavor and Guilford has the opportunity to round out its educational offerings commensurate with

the broad knowledge base that its residents possess. An outdoor classroom in the Guilford Center Village would provide a strong foundation and gathering place that teachers could use to explore learning opportunities present in the Village (Library, Museum, Community Center, Meeting House, Spring House, and Brick School House). The creation of a space like this, in tandem with using the Broad Brook Grange as a community kitchen/indoor classroom, would fill a longtime gap in Guilford's education system.

Guilford's adult residents possess an extraordinary variety of skills and knowledge that they could share with each other. Indeed, this transfer of knowledge is already happening in small pockets, but a purposeful network and series of workshops committed to increased activity in this field would facilitate continuing education.

In 2019, local citizenry organized a Guilford Free University at the Community Center that brought a large group of adults together to engage in skill and knowledge sharing. This day could become an annual (or more frequent) tradition.

## **ACTIONS**

1. Assess the needs of parents/students as they pertain to early childcare/after-school programs and determine how likely they are to use these services if made available in Guilford.
2. Discuss options with GCS administration regarding the use of their facilities for early childcare or after-school options or look into other buildings (Community Center, church)
3. Form a volunteer committee charged with:
  - a. Meeting with GCS faculty and the Leadership Council to further understand their needs relative to their curriculum.
  - b. Creating an outdoor learning and green gathering space in the Guilford Center Village in collaboration with the State-supported Vermont Village Greens Initiative.
  - c. Developing a database of residents' skills and knowledge, assessing whether they are willing to share them, and facilitating this transfer of knowledge.

# Hazard Mitigation and Flood Resiliency

## *Vision, Goals, Discussion, Policies, Actions*

### VISION

*Guilford will be secure from natural and human-caused hazards and their effects, including the threat of serious flooding and subsequent damages, so that the cost of recovery is minimized and residents and vital areas of economic activity and community services are protected.*

### GOAL and POLICIES

1. **It is the policy of the Town to** ensure that hazard mitigation planning is incorporated into all relevant community planning projects, including the Town Plan, Capital Improvement Plan, and Local Emergency Operations Plan.
2. Reduce the potential for loss of life or injury.
3. Reduce the impact of flooding on the Town's water bodies, natural resources and historic resources.
4. **It is the policy of the Town to** be proactive in implementing any necessary mitigation projects for public infrastructure such as roads, bridges, culverts, municipal buildings, etc. to reduce the impact of:
  - a. disruption to the road network;
  - b. financial losses incurred by municipal, residential, industrial, agricultural, and commercial establishments;
  - c. damage to community infrastructure.
5. Ensure that Guilford residents participate in and are aware of hazard and flood resiliency planning, requirements, and responses.

### DISCUSSION

Over the years, Guilford has experienced damage caused by high winds, flooding and fluvial erosion, landslides, power outages, severe storms, etc. Utilities, broadband and cell coverage, government facilities, watersheds, and health and social services can all be severely impacted, thus threatening the Town (as well as surrounding communities and areas).

Flash floods are likely in Guilford and potential damage to Route 5 or Guilford Center Road, the Town's major transportation corridors, could limit access into and within the town. Additionally Hinesburg Road, Green River Road, Hale Road, and Weatherhead Hollow Road areas have seen damage in recent years from flooding and severe thunderstorms. There are road washouts during spring snowmelt and summer rains.

Hazards cannot be eliminated, but it is possible to determine where probable hazards are most likely to occur or be most severe, as well as to identify actions to take to reduce

damages. It behooves us to be prepared locally as well as to participate with other communities in their plans and activities. In this spirit, Guilford is actively involved in planning for hazard mitigation for two primary purposes: to be as secure as possible from natural or human-caused disasters AND to be eligible for the maximum disaster funding relief -- Emergency Relief and Assistance Fund (ERAF)-- to reduce the impact of severe damages on Town finances after declared disasters. ERAF compliance for the maximum State contribution of 17.5% requires:

1. adoption of a flood hazard bylaw that secures participation in the National Flood Insurance program (NFIP)
2. adoption of the most recent Agency of Transportation Town Road and Bridge Standards
3. adoption and maintaining of a Local Emergency Operations Plan (annually after Town Meeting)
4. adoption of a Local Hazard Mitigation Plan AND
5. adoption of a river corridor protection bylaw OR
6. Maintain an active rate classification under FEMA's NFIP Community Rating System that includes activities that prohibit new structures in mapped flood hazard areas.

The "Town of Guilford Local Hazard Mitigation Plan" was submitted to FEMA for approval early in February of 2015.

Barriers to implementation of the plan include:

1. Financial constraints of the Town budget.
2. All volunteer emergency staff: although they function well, reliance upon all volunteers can be risky
3. With the closure of Vermont Yankee, there is less funding for emergency management in Guilford.
4. There is no Development Review Board.
5. There is no zoning.

Capabilities to build upon for implementation:

1. Active Selectboard, Planning Commission, Conservation Commission, and Emergency Management Director.
2. Great volunteer base, in addition to the EMD, to carry out projects.
3. Floodplain ordinance in place, with floodplain administrator.

Although there are barriers to overcome in project implementation, Guilford is in a good position overall. This is an exceptional community with committed volunteers who help the Town function well.

Guilford works closely with the VT Department of Emergency Management and Homeland Security by attending many workshops and training sessions. Typically 6-8 Guilford residents who either hold official positions, including Emergency Management Director,

Road Foreman, Selectboard Chair, and others. They have attended trainings including “Train the Trainer,” Emergency Operation Center (EOC) operations, Benefit Cost Analysis, Hazard Mitigation Planning, etc. Guilford’s EOC is activated for all emergencies. Guilford is well-versed in emergency response planning and action. Guilford looks to and works closely with the Windham Regional Commission. Regional Plan policies for guidance on land use decisions inform Town Plan policies and goals. Additionally, the Town works closely with the VT Department of Environmental Conservation, Agency of Natural Resources when mitigating any work in streams or rivers. Also, Guilford has adopted VTrans’ Town Road and Bridge Standards for road/culvert/bridge improvement projects.

## **ACTIONS and POLICIES**

1. Selectboard to confirm their adoption the Flood Hazard Area bylaw currently on the Town’s website to “promote the public health, safety, and general welfare, to prevent increases in flooding caused by the uncontrolled development of lands in flood hazard areas, to minimize losses due to flooding, and to maintain the Town's eligibility to participate in the National Flood Insurance Program. “ Adhere to the guidelines therein.
2. Selectboard will enact the resolution adopting the Local Hazard Mitigation Plan once it is approved by FEMA Guilford will adhere to the policies contained in the Hazard Plan/Bylaw,, pursue the projects laid out in the plan, and keep the plan updated and relevant.
3. Town Administration will continue to ensure, per Town flood regulations, that development is not permitted in the floodplain(s).
4. **It is the policy of the Town that** Guilford’s Emergency Management Director and the Town will work with Windham Regional Commission to monitor, evaluate, and update the hazard mitigation plan. Work will include:
  - a. Identifying and planning for ongoing hazard mitigation work (refer to the **Town of Guilford Local Hazard Mitigation Plan** table of Mitigation Actions submitted to FEMA early in 2015 prior to publication of this Town Plan and to Green River Corridor Plan Identified Mitigation Projects
  - b. Coordinating among stakeholders to identify structures and engineering projects that can help mitigate future hazardous events
  - c. Discussing status of structures in the Special Flood Hazard Areas as identified on the FEMA Flood Insurance Rate Maps
5. Encourage farmers to use swales on contour in their landscapes, particularly open fields on hills. Swales are a low-tech method for preventing high volumes of rainfall from entering our bodies of running water, essentially ditches dug on contour that slow surface runoff and provide a place for the water to gather until it can seep into the ground. In addition to flood prevention, this recharges the groundwater and can improve the fertility and production of existing fields. (One inch of rain falling on one acre is equivalent to over 27,000 gallons of water and that water is best kept in the farmland for hay and/or food production.)

## Implementation

Effective implementation of this Plan requires careful consideration and action by the Townspeople, the Selectboard, Planning Commission, and other local boards, commissions and organizations. As the Town grows and comes under additional development pressure, Guilford will need to develop methods to deal with the inevitable problems. Among the many available methods which should be considered are the following:

1. **Planning:**
  - a. Create a 2021-2029 Town Plan Actions Matrix that details, among other things: actions, a timeline, involved parties, a schedule for the discussion and possible implementation with appropriate representatives and residents, and notes that cover budget impact, legislative acts, funding resources.
  - b. Our “planning program” should be strengthened, with Town Boards, especially the Planning Commission, taking the lead. Discussions of planning issues should become a regular part of commission and board agendas, with the matrix being used to guide priorities and measure progress. Effort by all the people of the Town is needed to sustain and enrich planning programs.
2. **Land Use Regulations:** Flood hazard, shoreland, and wetland regulations, subdivision regulations, and other ordinances should be considered to promote the public health and safety, environmental quality and protection of the quality of life.
3. **Land acquisition:** Acquisition by the Town through purchase, by lease, by easements of development rights, and by gift, is the most certain method for protecting valuable scenic and recreational lands, and for ensuring access and enjoyment of them.
4. **Taxation:** Vermont's Use Value Appraisal Program encourages long-term agriculture and forestry uses of property through tax incentives. The Program encourages the maintenance of undeveloped land for farming, forestry, and public recreation. The Town may also provide property tax relief for qualifying farm, forest, and open space landowners by adopting local tax stabilization programs to reduce local property tax burden. For general purposes, the assessing and taxing of land shall seek to strengthen the policies spelled out in this Town Plan, so long as they do not conflict with State laws or policies.
5. **Land Conservation** by Guilford Citizens: Landowners can negotiate conservation easements with organizations such as the Vermont Land Trust and The Nature Conservancy to protect productive agricultural and forest lands, wildlife and natural areas, and public recreation lands. Other private means of helping to implement this Town Plan include: Privately agreed-upon restrictive covenants (easements) binding on purchasers of land;
  - a. Consideration given to the objectives of this Plan by landowners when they build or subdivide.
  - b. Formation of conservation non-profits.
  - c. Participation in the Act 250 review process by abutting landowners.



- d. Participation in Town planning by citizens concerned about the future of Guilford.

# Summary List of Actions

## Settlements and Land Use

1. The Planning Commission will work with Town administration, commissions, and interested parties to create proposals for preserving the character of our settlements and land for all Guilford residents.
2. Apply for renewal of the two Village Center designations when required.
3. The Town will continue to identify and map ridgelines, agricultural and forest lands, and wildlife corridors, and investigate opportunities to preserve them via economic incentives or conservation agreements.
4. The Planning Commission and Conservation Commission will work with neighboring towns to link conservation areas and critical conservation corridors across town boundaries.

## Residents

1. Access and leverage the range of regional expertise and resources that exists to serve local residents and businesses.
2. Establish a task force to create, maintain, and publicize the following:
  - a. Directory of social services, including Guilford Cares
  - b. Directory of local businesses, including agricultural and forestry operations
  - c. Community calendars
  - d. Civic opportunities (commissions, boards, task forces, elected positions, etc.)
  - e. Welcome packages for newcomers
3. Encourage all who have internet access to subscribe to and use Guilford Front Porch Forum and refer to [www.guilfordvt.net](http://www.guilfordvt.net) frequently for Town news.
4. Support the revitalized Guilford Gazette; consolidate newsletter efforts and budgets across town to realize efficiencies of scale and communications.
5. Find ways to connect neighbors by attending school concerts, church-led initiatives, community events, the Guilford Fair, potluck dinners, etc.
6. Ensure that the Town's address database is current and accessible for postal mailings (and email messages for those who opt in).
7. Establish a task force to coordinate volunteer opportunities in town, advance intergenerational contact, and overcome isolation (especially among seniors).

## Housing

1. Maintain and use the Guilford Community Loan Fund (provides affordable loans to lower income households to cover necessary repairs).
2. Create a Senior Housing Task Force to work with the community to explore aging-in-place options.
3. Create an Affordable Housing Task Force to

- a. examine and analyze the impact of affordable housing on Town taxes, services, and infrastructure.
  - b. analyze the way in which Town taxes affect the ability of people to become homeowners in our Town or to continue to be Town residents.
  - c. make recommendations for addressing issues discovered.
4. The Selectboard and any involved parties must bring housing development issues that could impact the Town's tax rate, services, and infrastructure to the Town for consideration.

### **Infrastructure: Climate Change, Waste Management, Health, Emergency Services, Community Facilities**

1. Understand demographic, economic, AND environmental patterns and trends that will shape our future and impact the Town's infrastructure, including the impact of climate change.
2. Encourage cost-effective waste disposal practices that protect our environment.
3. Ensure that the Town and its residents are informed about and able to comply with requirements of the Universal Recycling Law.
4. Appoint a qualified healthcare professional to serve as the Town's Health Officer who shall, by law make a sanitary survey of each schoolhouse, school lunch facilities, and any building used for public purposes, and annually in the month of February report to Selectboard.
5. Job performance of elected and paid Town officials shall regularly (annually) be evaluated and reported to the Town on Town governance issues and any others that may arise.
6. The Selectboard shall describe concerns about and establish a policy for dealing with conflict of interest among elected, appointed, and paid positions in Town.
7. Encourage residents to be proactive about planning for and meeting emergency needs.
8. Create a database of available emergency services should a weather occurrence render roads impassable or knock out power for an extended period of time.
9. Support the Town in planning, financing, and implementing an efficient system of public facilities and services to meet future needs.

### **Economy**

1. Complete work of bringing town-wide cellular and reliable high speed (100/100 mbps) internet to Guilford.
2. Conduct an inventory of Guilford's key assets.
3. Encourage opportunities for citizens to develop employable skills and small-scale, including technology-related, businesses.
4. Encourage environmentally sustainable practices in all business operations in Town, including but not limited to agriculture, forestry, auto repair, and construction.
5. Ensure that businesses and industries act in an environmentally responsible manner.
6. Promote economic growth that is consistent with local and regional objectives.

## **Recreation**

1. Explore the possibility of using State aid and/or private funds for recreational trails.
2. Seek funds for planning for and construction of a system of paths.
3. Seek funds to identify and acquire easements for a system of recreational trails.
4. Support efforts of residents to preserve recreational facilities on private land.
5. Be responsive to private landowner concerns about property rights.
6. Encourage Town-wide recreational events.

## **Historic and Cultural Resources**

1. Protect archeological, architectural, and historic sites and districts.
2. Support Cemetery Commission in ensuring integrity of Town's cemeteries.

## **Natural Resources** (refer to pp 61, 68-69, 71 for complete list of actions)

### **Energy**

1. Develop policies which encourage energy conservation.
2. Explore options for photovoltaic (PV) installation to power Guilford's public buildings.
3. Promote education about energy audits, current best practices for energy production and home heating, and weatherization programs and encourage their use.
4. Periodically conduct an energy audit of all public buildings.
5. Encourage and support cross-sharing of information about and experiences with renewable and sustainable energy sources and practices.

### **Education**

1. Assess needs of parents/students vis-à-vis early childcare/after-school programs.
2. Form a volunteer committee charged with
  - a. Meeting with GCS faculty to further understand their needs relative to their curriculum.
  - b. Creating an outdoor learning and green gathering space in the Guilford Center Village in collaboration with the State-supported Vermont Village Greens Initiative.
  - c. Developing a database of residents' skills and knowledge, assessing whether they are willing to share them, and facilitating this transfer of knowledge.

## **Hazard Mitigation and Flood Resiliency**

1. Selectboard to confirm adoption of the Flood Hazard Area bylaw currently on the Town's website and adhere to the guidelines therein.

2. Selectboard will enact the resolution adopting the Local Hazard Mitigation Plan once approved by FEMA and adhere to the policies.
3. Continue to ensure, per Town flood regulations, that development is not permitted in the floodplain(s).
4. Guilford's Emergency Management Director and the Town will work with Windham Regional Commission to monitor, evaluate, and update the hazard mitigation plan. Work will include:
  - a. Identifying and planning for ongoing hazard mitigation
  - b. Coordinating among stakeholders to identify structures and engineering projects that can help mitigate future hazardous events
  - c. Discussion
  - d. status of structures in the Special Flood Hazard Areas as identified on the FEMA Flood Insurance Rate Maps
5. Encourage farmers to use swales on contour in their landscapes

#### Relationship to Adjacent Municipal and Regional Plans

In preparing this Plan there was due consideration of development trends, the Town Plans of neighboring Vermont municipalities, and the Windham Regional Plan. This Town Plan addresses development trends in this town and in the area through proposing future land uses that preserve the existing settlement patterns in Guilford and adjacent areas and protecting valuable and common resources. We find it is compatible with the Town Plans of Brattleboro, Halifax, Marlboro, and Vernon and with the Windham Regional Plan.

For example, where Guilford abuts Brattleboro, our proposed high-density mixed-use area adjoins a planned unit development in Brattleboro, proposed residential areas adjoin similar areas in Brattleboro, and proposed conservation areas adjoin agricultural resource areas in Brattleboro. Similarly, where Guilford abuts Halifax, conservation areas in the two towns meet at the town line, as do low density rural residential areas. Abutting Vernon, across the shared transportation corridors of Route 5 and I-91, are protected lands of the Roaring Brook Wildlife Management Area in both towns.

The Town Plan is compatible with the Windham Regional Plan (<http://windhamregional.org/publications>) in land use categories and policies. The Town Plan proposes similar areas for villages and residential areas, as well as for promotion of agricultural and forestry resource lands and conservation areas.

# Guilford Center Village Center Town of Guilford, Vermont

Village Center District

Parcel use:

- Public/Institutional
- Commercial
- Mixed Use
- Residential

- Commercial building
- Mixed Use building
- Public/Institutional building
- Residential building

Photo location

aerial photo date 2011

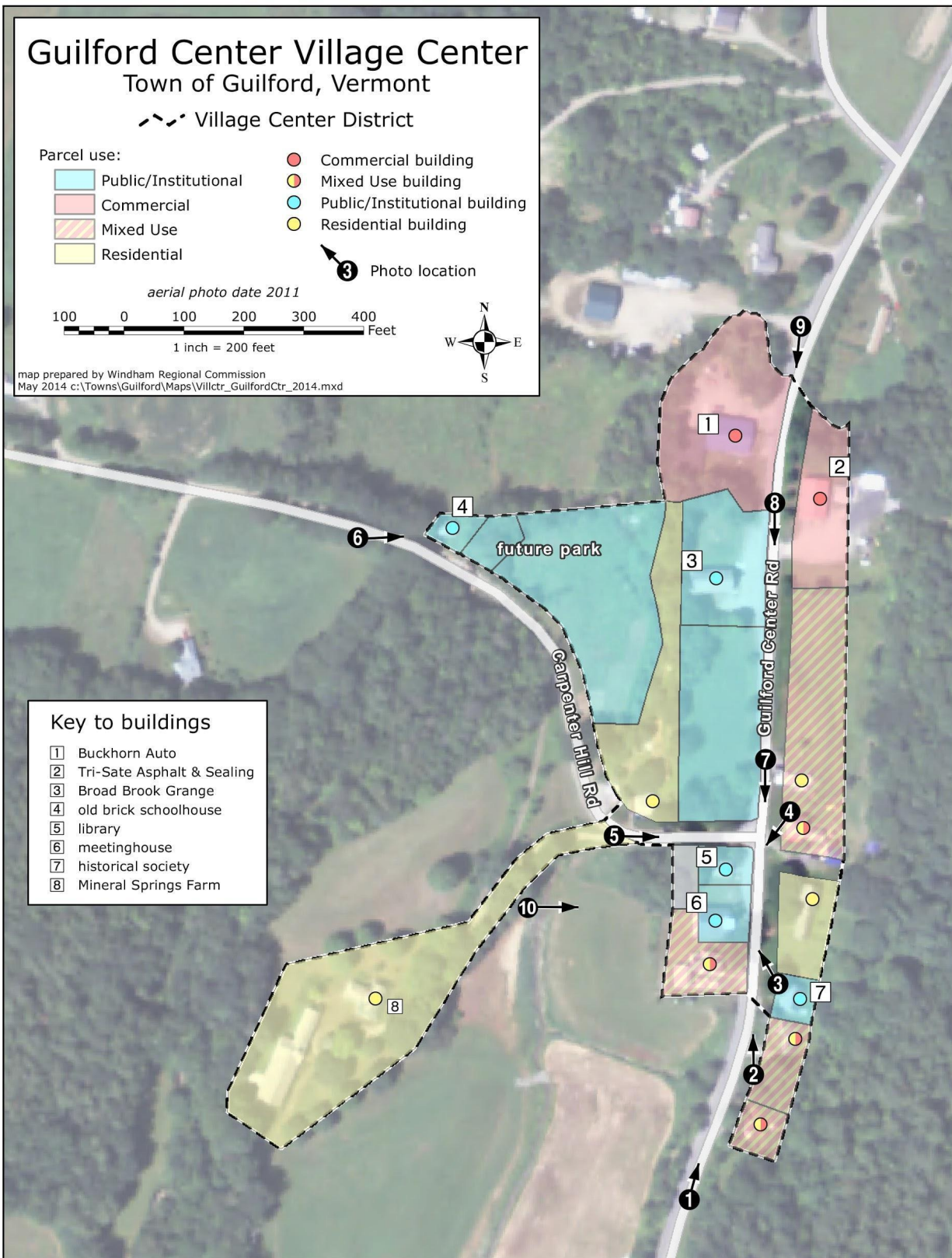
100 0 100 200 300 400 Feet  
1 inch = 200 feet



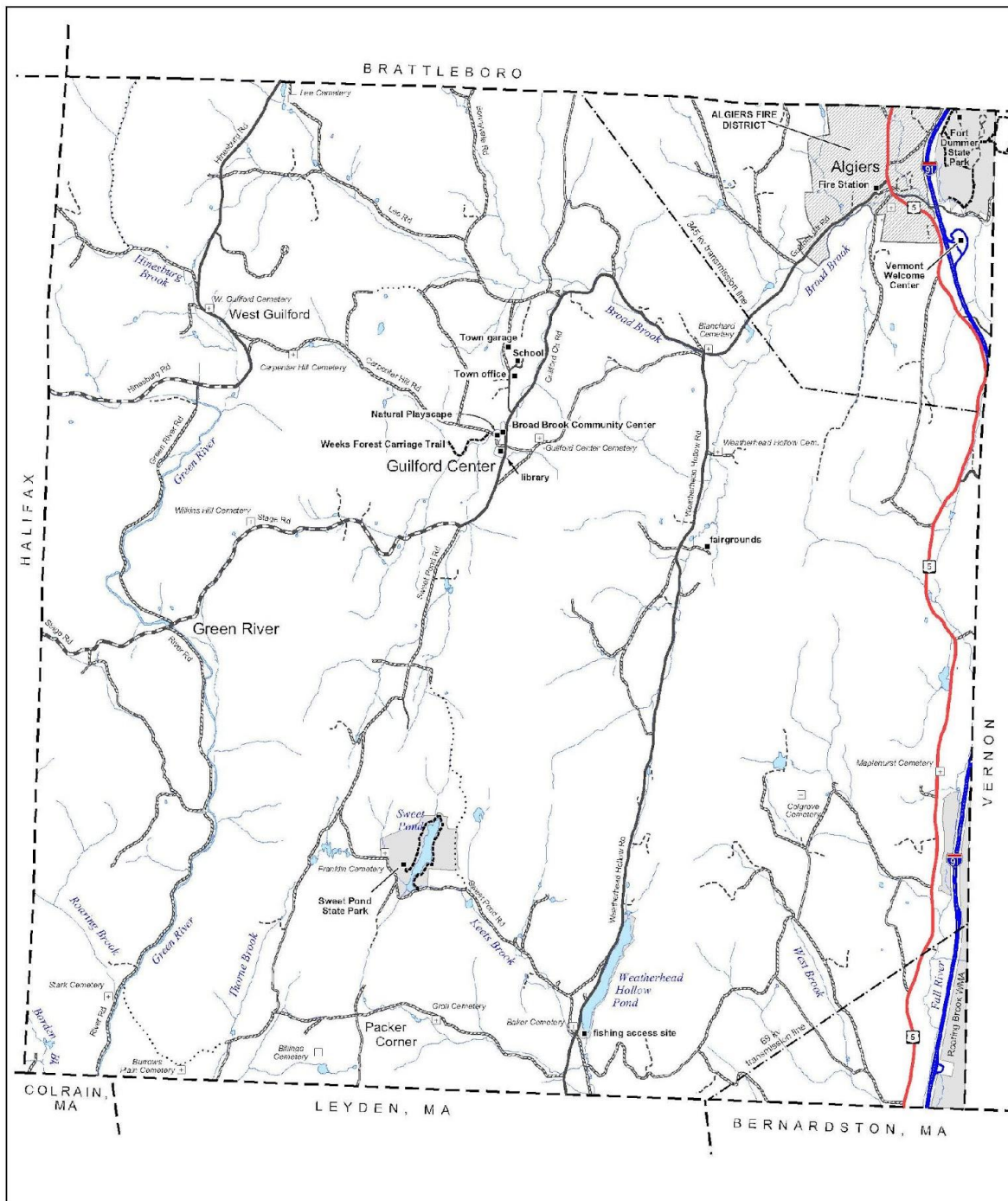
map prepared by Windham Regional Commission  
May 2014 c:\Towns\Guilford\Maps\Villctr\_GuilfordCtr\_2014.mxd

## Key to buildings

- 1 Buckhorn Auto
- 2 Tri-Sate Asphalt & Sealing
- 3 Broad Brook Grange
- 4 old brick schoolhouse
- 5 library
- 6 meetinghouse
- 7 historical society
- 8 Mineral Springs Farm







# Community Facilities & Utilities

Town of Guilford, Vt.

July 2021



- Cemetery
- Algiers Fire District (sewer district)
- Public land, open space
- Electric, transmission line

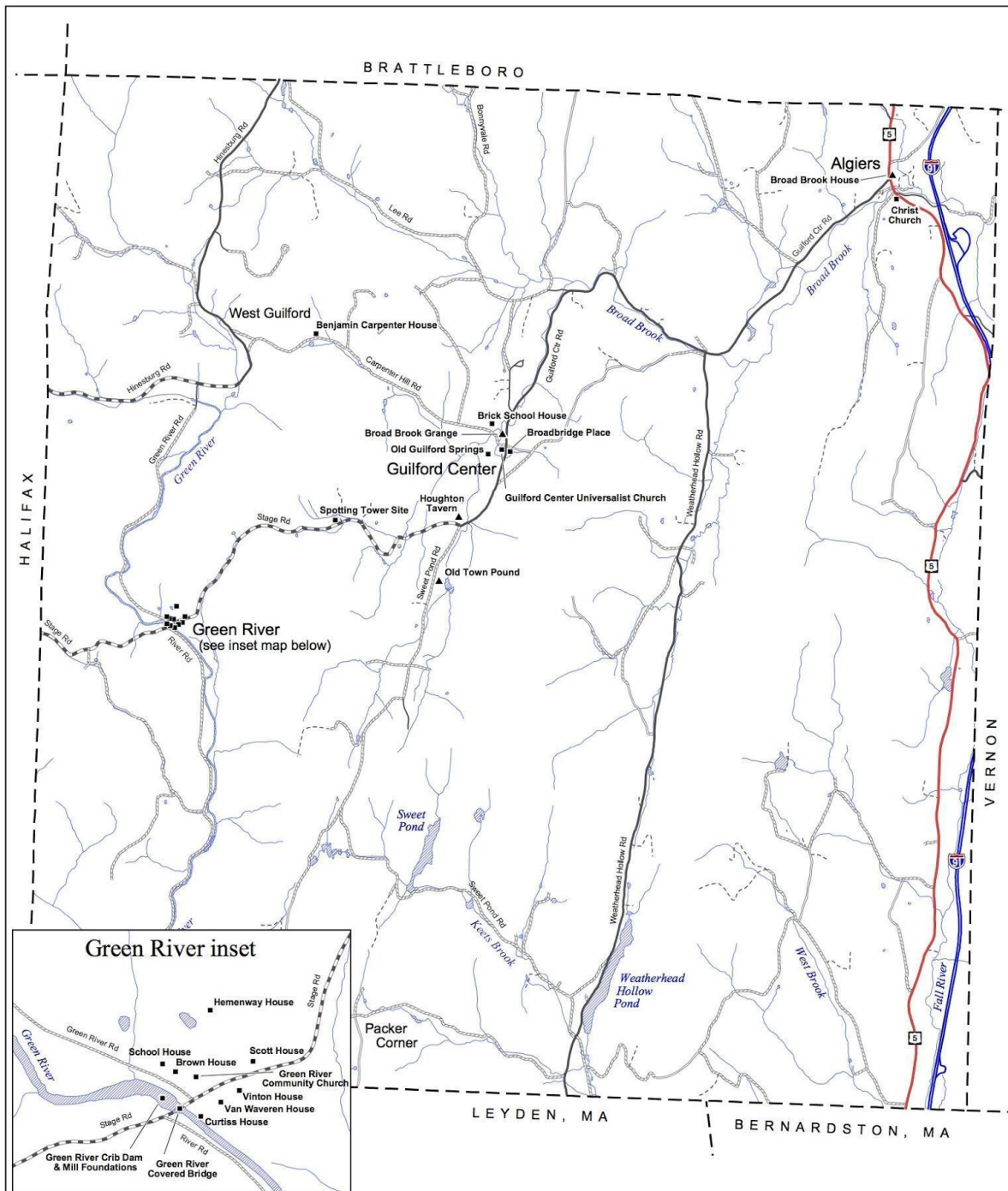
## Data sources:

- Electric transmission lines were digitized from 1:5000 orthophotos by Greenhome & O'Mara, Inc. under contract with OGIS.
- Cemeteries were located by the Guilford Planning Commission and WRC using 1:5000 digital parcel data and orthophotos.
- Community facility locations were determined by WRC using 1:5000 orthophotos and building points captured by GPS for Vermont's Enhanced 9-1-1 project.
- The boundary of the Algiers Fire District was developed by WRC using 1:5000 digital parcel boundary lines.
- Public lands data are from 1:5000 digital parcel data.

0.5 0 0.5 1 1.5 Miles  
scale 1:40,000

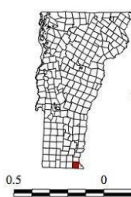
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June 2005



- Site on National or State Register of Historic Places
- Site of local historic significance

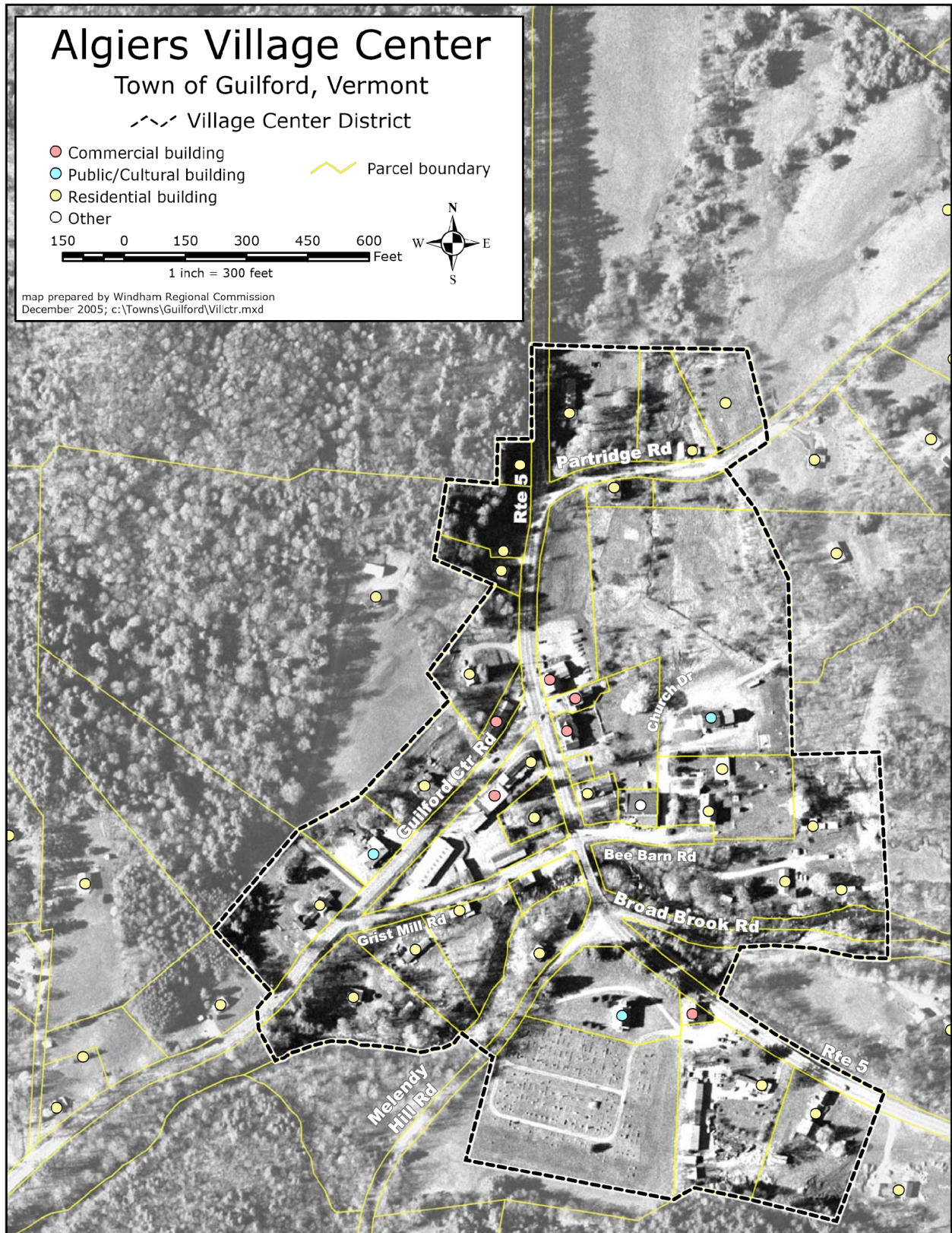
- Town boundary
- Interstate highway
- Federal Highway
- Class 2 town highway - paved
- Class 3 town highway - paved
- Class 3 town highway - unpaved
- Class 4 town highway (unpaved)
- Private road/drive
- Stream
- River or pond

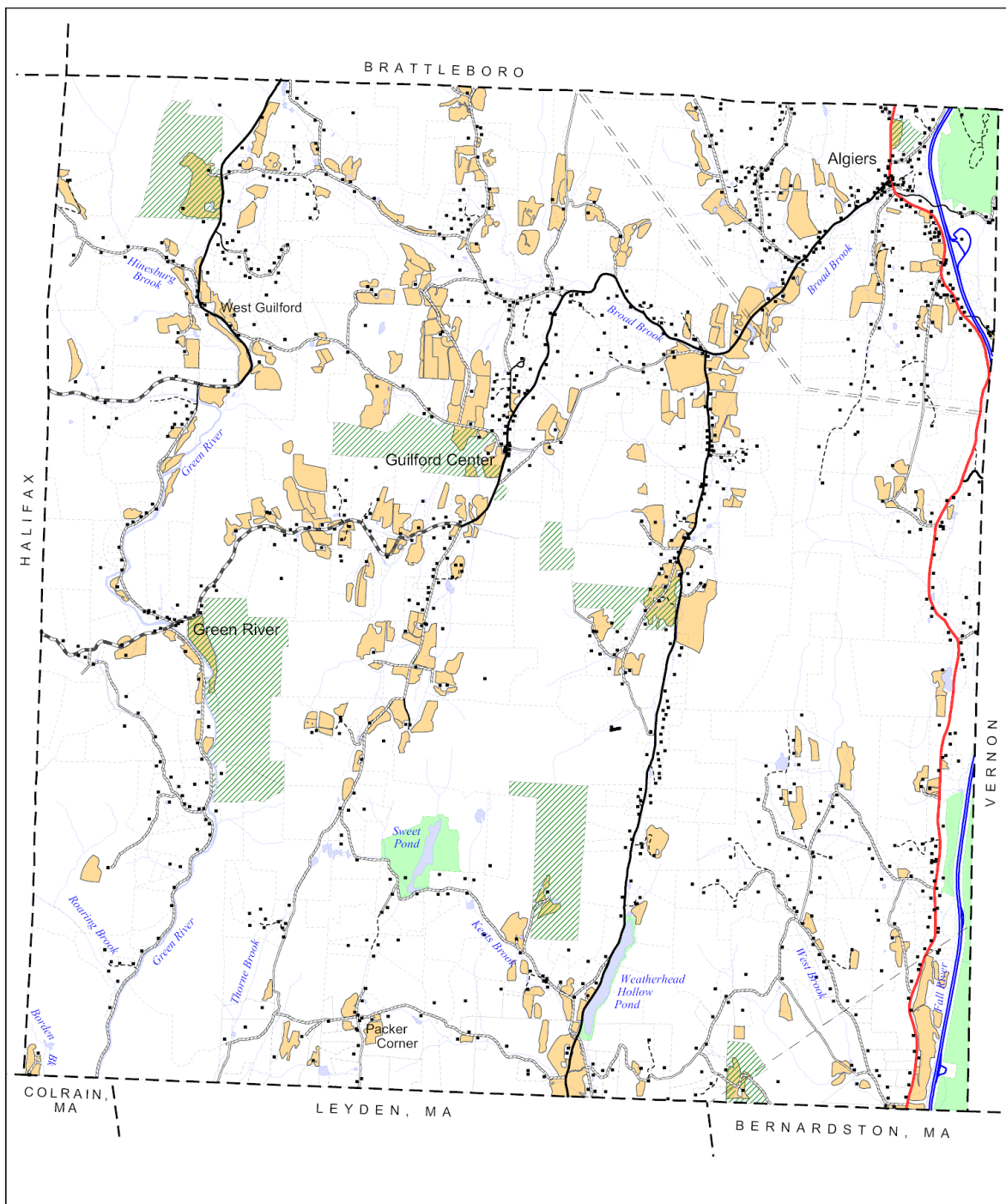
#### Data sources:

- State and national register historic sites data were collected by Mrs. Barrand's class at Guilford Central School in 1998. The locations are based upon structure locations captured using Global Positioning System technology by microDATA, St. Johnsbury, VT for Vermont's Enhanced 9-1-1 program. Locations have been edited by WRC using 2000 Vermont digital orthophotos.

- Sites of local historic interest were identified by the Guilford Planning Commission. The locations are based upon structure locations captured using Global Positioning System technology by microDATA, St. Johnsbury, VT for Vermont's Enhanced 9-1-1 program. Locations have been edited by WRC using 2000 Vermont digital orthophotos.







# Existing Land Use

## Town of Guilford, Vermont

August 2021



0.5 0 0.5 1 1.5 Miles  
scale 1:40,000

- Structures
- Public land
- Agricultural land (2010)
- Conservation easement
- Interstate highway
- Federal Highway
- Class 2 town highway - paved
- Class 3 town highway - paved
- Class 3 town highway - unpaved
- Class 4 town highway (unpaved)
- Private road/drive
- Stream
- Town boundary
- River or pond
- Parcel boundary (2017)

### Data sources:

- Public lands boundaries are derived from Guilford's 1:5000 digital tax map data. Last updated 2017.

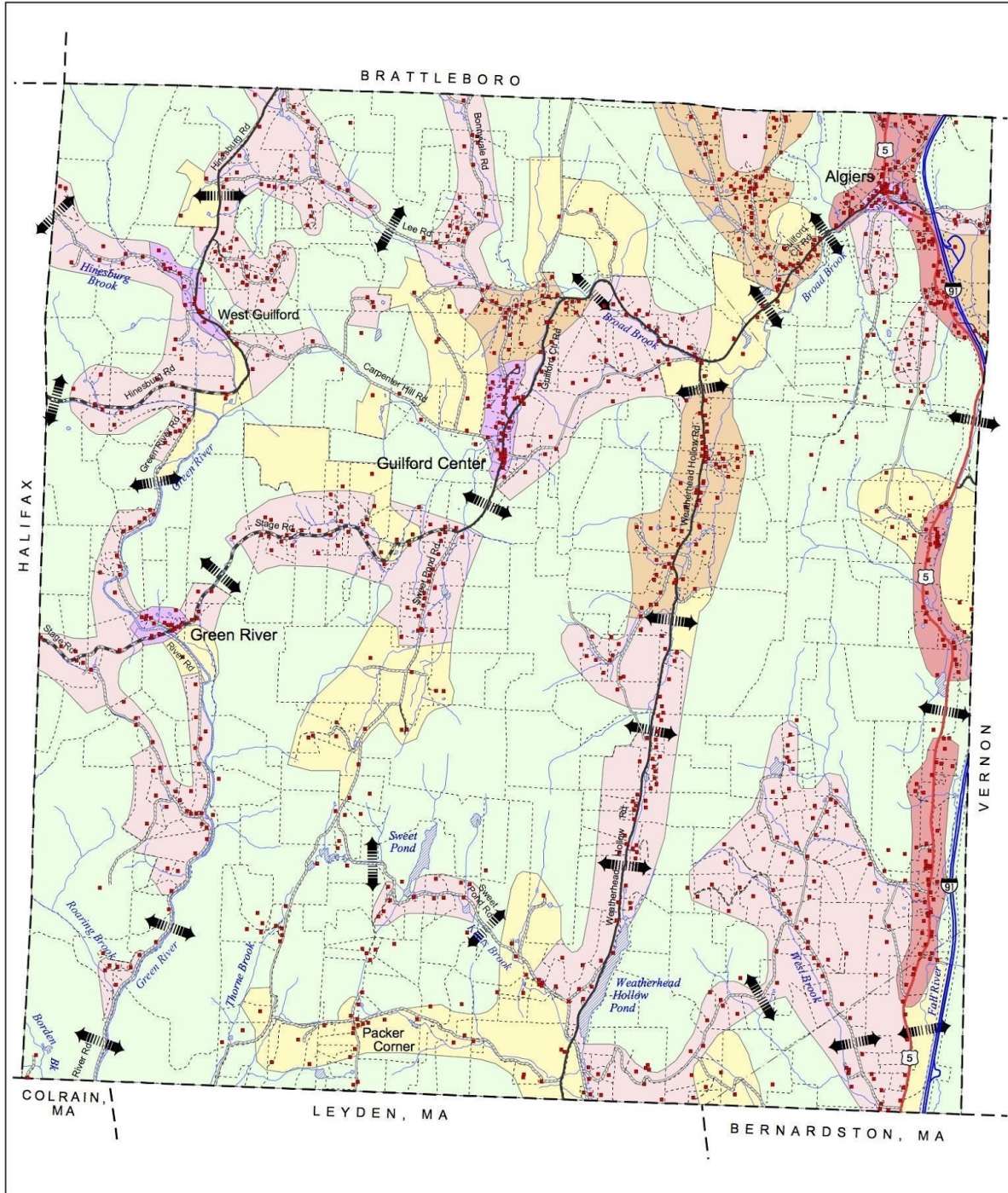
- Conservation easement information is from the Vermont Conserved Lands Database and from Guilford's 1:5000 digital tax map data. Current to 2020.

- Data on agricultural lands are based on the Natural Resources Conservation Service's Common Land Unit data and from information provided by the Guilford Planning Commission and digitized by Windham Regional Commission. Current to 2010.

- Structure locations were captured using Global Positioning System technology by microDATA, St. Johnsbury, VT for Vermont's Enhanced 9-1-1 program. Locations have been edited by WRC and are current to 2019.

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# Proposed Land Use Town of Guilford, Vermont

May 2010



0.5 0 0.5 1 1.5 Miles  
scale 1:40,000

## Critical Conservation Linkages:



## Land Use Areas:

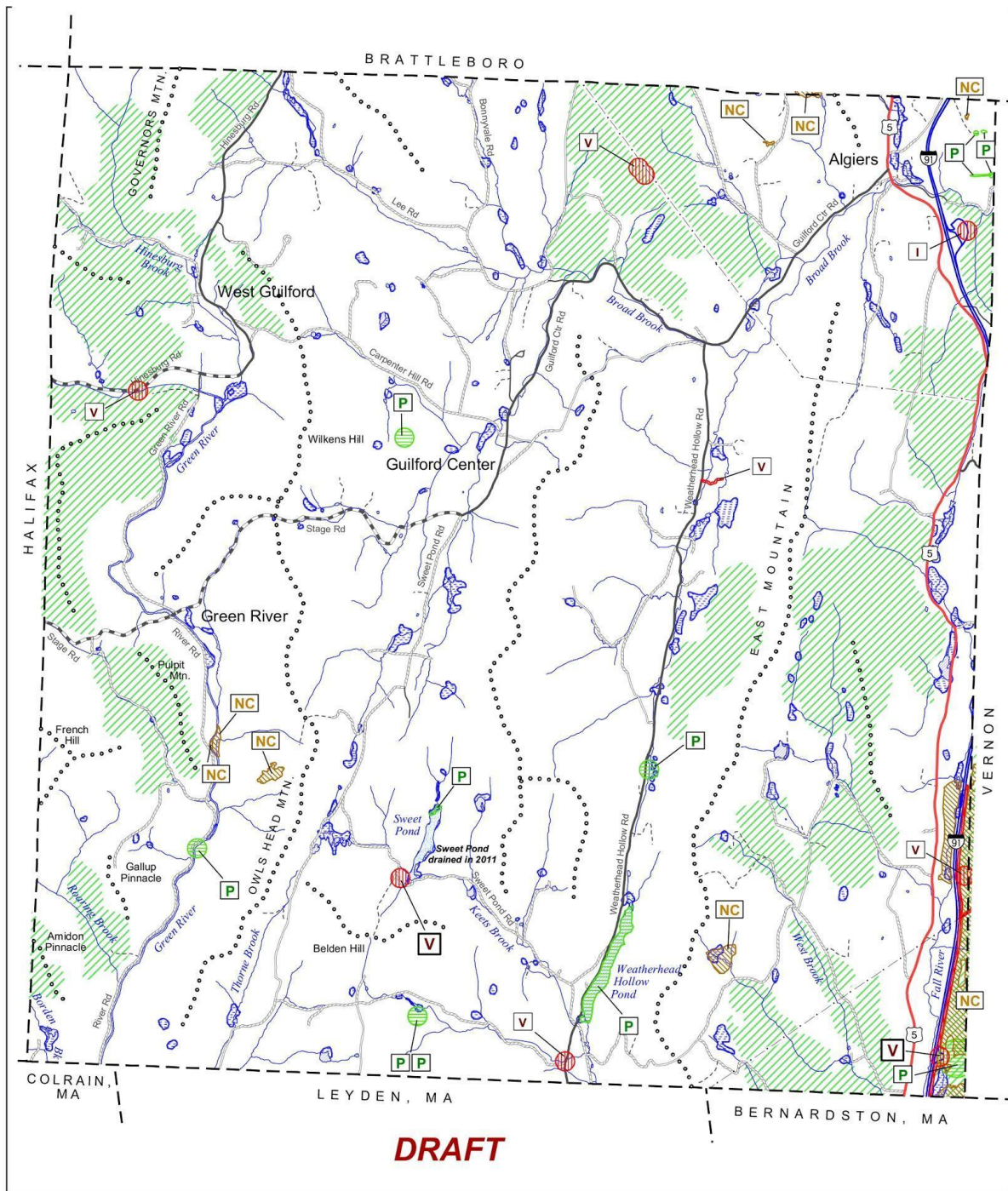
- Historic Village
- High Density Mixed Use
- Low Density Mixed Use
- Residential
- Agricultural Resource
- Conservation

- Interstate highway
- Federal Highway
- Class 2 town highway - paved
- Class 3 town highway - paved
- Class 3 town highway - unpaved
- Class 4 town highway (unpaved)
- Private road/drive
- Stream
- Town boundary
- River or pond
- Buildings
- Electric transmission line
- Parcel boundary

Data notes:  
- Proposed land use area boundaries and critical conservation corridors were determined by the Guilford Planning Commission. Refer to the 2010 Guilford Town Plan for a description of each future land use district.

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# Natural Resources

## Town of Guilford, Vermont

March 2015

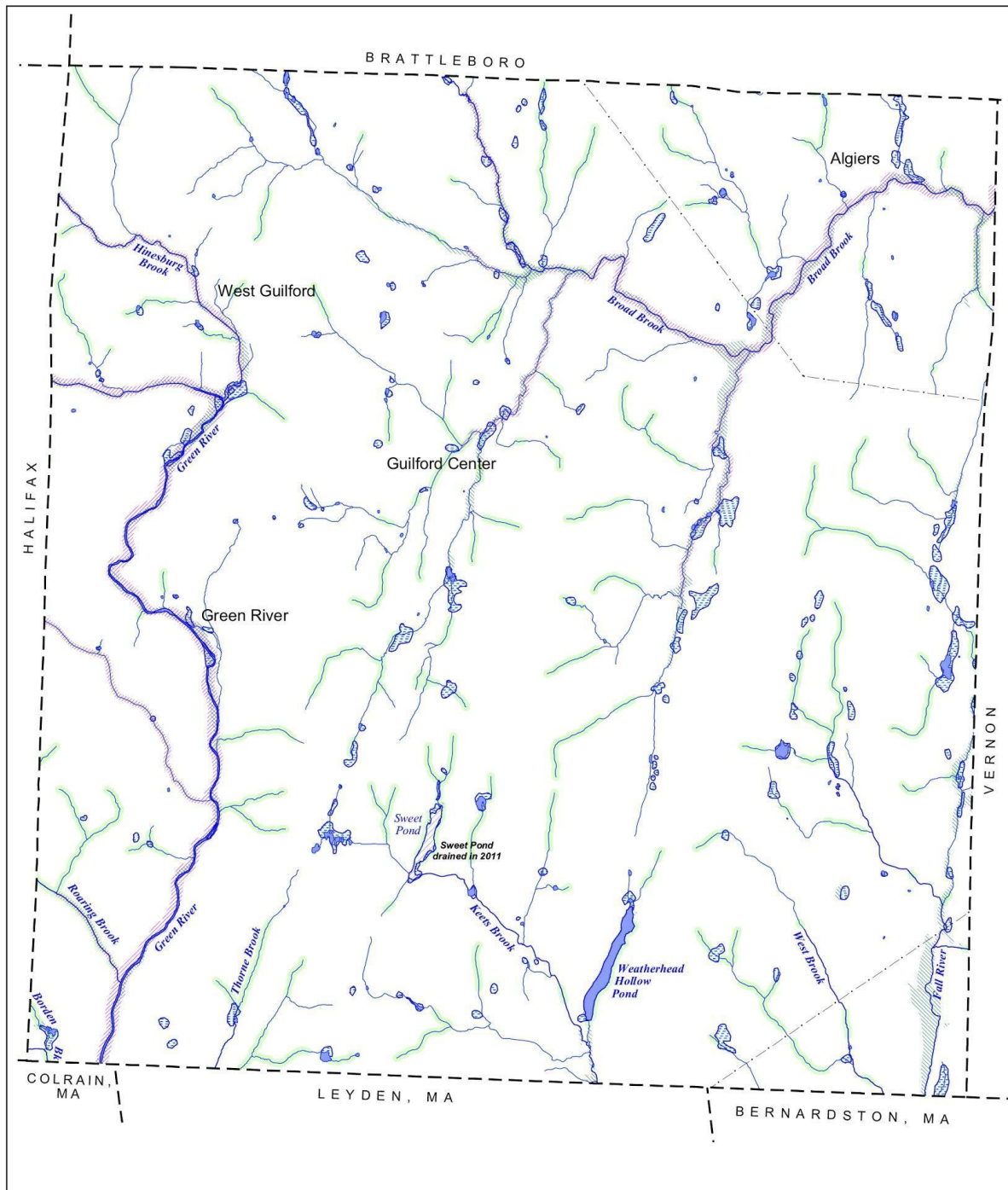


0.5 0 0.5 1 1.5 Miles  
scale 1:40,000

- Natural heritage data occurrence:**
- Vertebrate, state threatened or endangered
  - Plant
  - Vertebrate
  - Invertebrate
  - Natural community
- Map Symbols:**
- Town boundary
  - Stream
  - River, pond
  - Wetland
  - Deer wintering area
  - Important ridgeline

### Data sources:

- Locations of rare and uncommon plant species were determined from VT ANR Department of Fish and Wildlife, Nongame and Natural Heritage Program's Rare, Threatened and Endangered Species and Significant Natural Communities database. The data used are current to January 2015. Locations are approximate, but generally within 500 feet. For further information, contact the Nongame and Natural Heritage Program.
- Deer wintering areas delineated by VT ANR, Department of Fish and Wildlife. Digital data released in 2011 (the most current available) were used.
- The wetlands shown are those included in the Vermont Significant Wetlands Inventory (VGIS data layer VSWI). For the most part, these data were derived from US Fish and Wildlife Service's 1:24000/1:25000 scale National Wetlands Inventory (NWI) maps. These maps show approximate locations of wetlands that are generally 3 acres or larger in size.
- Surface waters are from the Vermont Hydrography Dataset (VGIS data layer SWnnnnnn). The dataset was generated at a scale of 1:5000 and was developed using digital orthophotos, topographic maps, color infra-red aerial photography and other ancillary data sources.
- Important ridgelines were identified by the Guilford Planning Commission in 2005.

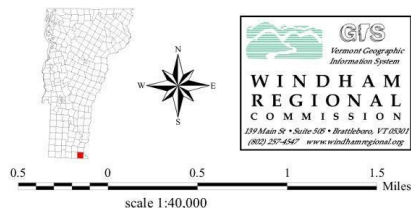


# Water Resources

## Town of Guilford, Vermont

**DRAFT**

March 2015



- - - - - Town boundary
- ~~~~~ Stream
- River, pond
- ▨ Wetland
- ▨ Special flood hazard area
- ▨ River corridor
- ~~~~~ Undeveloped stream, river, or pond

### Data sources:

- The wetlands shown are those included in the Vermont Significant Wetlands Inventory (VGIS data layer VSWI). For the most part, these data were derived from US Fish and Wildlife Service's 1:24000/1:25000 scale National Wetlands Inventory (NWI) maps. These maps show approximate locations of wetlands that are generally 3 acres or larger in size.
- Surface waters are from the Vermont Hydrography Dataset (VGIS data layer SWnnnnnn). The dataset was generated at a scale of 1:5000 and was developed using digital orthophotos, topographic maps, color infra-red aerial photography and other ancillary data sources.
- River Corridors encompass the area of land surrounding a river that provides for the meandering, floodplain, and the riparian functions necessary to restore and maintain the naturally stable or least erosive form of a river thereby minimizing erosion hazards over time. Data were developed by Vt. Agency of Natural Resources for streams with a drainage area of 2 square miles and greater.
- Special Flood Hazard Area boundaries (i.e. "the 100-year floodplain") are from FEMA (Federal Emergency Management Agency) D-FIRM (Digital Flood Insurance Rate Map) data effective September 28, 2007.



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